GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: July 27, 2005, 17:01:29 ; Search time 43 Seconds
(without alignments)
548.584 Million cell updates/sec

Title: US-10-074-596-1
Perfect score: 1623
Sequence: 1 MKGNMKVYWIKIAVATWFCC.....KTSLAAELIIQNYESLVGFD 316

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 513545 seqs, 74649064 residues

Total number of hits satisfying chosen parameters: 513545

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued_Patents_AA:*
1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	1287	79.3	251	1	US-08-425-336-2	Sequence 2, Appli
2	1287	79.3	251	1	US-08-488-113B-2	Sequence 2, Appli
3	1287	79.3	251	1	US-08-477-484B-2	Sequence 2, Appli
4	1287	79.3	251	2	US-08-646-360-2	Sequence 2, Appli
5	1287	79.3	251	2	US-08-621-803-247	Sequence 247, App
6	1287	79.3	251	3	US-08-839-765-2	Sequence 2, Appli
7	1287	79.3	251	3	US-09-136-389-2	Sequence 2, Appli
8	1287	79.3	251	3	US-09-217-352-247	Sequence 247, App
9	1287	79.3	251	3	US-09-610-838-2	Sequence 2, Appli
10	1287	79.3	251	4	US-09-711-485-2	Sequence 2, Appli
11	1287	79.3	251	4	US-09-645-603B-2	Sequence 2, Appli
12	1286	79.2	293	2	US-08-621-803-259	Sequence 259, App
13	1286	79.2	293	3	US-09-217-352-259	Sequence 259, App
14	1286	79.2	309	2	US-08-621-803-253	Sequence 253, App
15	1286	79.2	309	3	US-09-217-352-253	Sequence 253, App
16	1286	79.2	332	2	US-08-621-803-251	Sequence 251, App
17	1286	79.2	332	3	US-09-217-352-251	Sequence 251, App
18	1284	79.1	251	1	US-07-901-707-2	Sequence 2, Appli
19	1284	79.1	251	1	US-07-988-430-2	Sequence 2, Appli
20	1284	79.1	251	5	PCT-US92-09487-2	Sequence 2, Appli
21	1282	79.0	251	1	US-08-425-336-108	Sequence 108, App
22	1282	79.0	251	1	US-08-488-113B-108	Sequence 108, App
23	1282	79.0	251	1	US-08-477-484B-108	Sequence 108, App
24	1282	79.0	251	2	US-08-646-360-108	Sequence 108, App
25	1282	79.0	251	3	US-08-839-765-108	Sequence 108, App
26	1282	79.0	251	3	US-09-136-389-108	Sequence 108, App
27	1282	79.0	251	3	US-09-610-838-108	Sequence 108, App
28	1282	79.0	251	4	US-09-711-485-108	Sequence 108, App
29	1279	78.8	251	1	US-08-425-336-103	Sequence 103, App
30	1279	78.8	251	1	US-08-425-336-104	Sequence 104, App
31	1279	78.8	251	1	US-08-425-336-105	Sequence 105, App
32	1279	78.8	251	1	US-08-425-336-106	Sequence 106, App
33	1279	78.8	251	1	US-08-425-336-109	Sequence 109, App
34	1279	78.8	251	1	US-08-488-113B-103	Sequence 103, App
35	1279	78.8	251	1	US-08-488-113B-104	Sequence 104, App
36	1279	78.8	251	1	US-08-488-113B-105	Sequence 105, App
37	1279	78.8	251	1	US-08-488-113B-106	Sequence 106, App
38	1279	78.8	251	1	US-08-488-113B-109	Sequence 109, App
39	1279	78.8	251	1	US-08-477-484B-103	Sequence 103, App
40	1279	78.8	251	1	US-08-477-484B-104	Sequence 104, App
41	1279	78.8	251	1	US-08-477-484B-105	Sequence 105, App
42	1279	78.8	251	1	US-08-477-484B-106	Sequence 106, App
43	1279	78.8	251	1	US-08-477-484B-109	Sequence 109, App
44	1279	78.8	251	2	US-08-646-360-103	Sequence 103, App
45	1279	78.8	251	2	US-08-646-360-104	Sequence 104, App

ALIGNMENTS

```
RESULT 1
US-08-425-336-2
; Sequence 2, Application US/08425336
; Patent No. 5621083
;  GENERAL INFORMATION:
;    APPLICANT:  Better, Marc D.
;    APPLICANT:  Carroll, Stephen F.
;    APPLICANT:  Studnika, Gary M.
;    TITLE OF INVENTION:  Immunotoxins Comprising Ribsome-Inactivating
;    TITLE OF INVENTION:  Proteins
;    NUMBER OF SEQUENCES:  140
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Marshall, O'Toole, Gerstein, Murray & Borun
;      STREET:  6300 Sears Tower, 233 South Wacker Drive
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  USA
;      ZIP:  60606-6402
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/425,336
;      FILING DATE:  18-APR-1995
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/064,691
;      FILING DATE:  12-MAY-1993
;      APPLICATION NUMBER:  US 07/901,707
;      FILING DATE:  19-JUN-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/787,567
;      FILING DATE:  04-NOV-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Meyers, Thomas C.
;      REGISTRATION NUMBER:  P-36,989
;      REFERENCE/DOCKET NUMBER:  31394
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312/474-6300
;      TELEFAX:  312/474-0448
;      TELEX:  25-3856
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  251 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-425-336-2
```

```
  Query Match             79.3%;  Score 1287;  DB 1;  Length 251;
  Best Local Similarity   100.0%;  Pred. No. 2.9e-122;
  Matches  251;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||||||||
Db        241 ALLKFVDKDPK 251


RESULT 2
US-08-488-113B-2
; Sequence 2, Application US/08488113B
; Patent No. 5744580
;  GENERAL INFORMATION:
;    APPLICANT:  Better, Marc D.
;    APPLICANT:  Carroll, Stephen F.
;    APPLICANT:  Studnika, Gary M.
;    TITLE OF INVENTION:  Immunotoxins Comprising Ribosome-Inactivating
;    TITLE OF INVENTION:  Proteins
;    NUMBER OF SEQUENCES:  169
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  McAndrews, Held & Malloy, Ltd.
;      STREET:  500 West Madison Street, 34th floor
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  USA
;      ZIP:  60661
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/488,113B
;      FILING DATE:  07-JUN-1995
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/425,336
;      FILING DATE:  18-APR-1995
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/064,691
;      FILING DATE:  12-MAY-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/988,430
;      FILING DATE:  09-DEC-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/901,707
;      FILING DATE:  19-JUN-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/787,567
;      FILING DATE:  04-NOV-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  McNicholas, Janet M.
;      REGISTRATION NUMBER:  32,918
;      REFERENCE/DOCKET NUMBER:  11022US07/200-70.P3.C2A
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312/707-8889
;      TELEFAX:  312/707-9155
;      TELEX:  650 388-1248
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  251 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-488-113B-2

  Query Match             79.3%;  Score 1287;  DB 1;  Length 251;
  Best Local Similarity   100.0%;  Pred. No. 2.9e-122;
  Matches  251;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||||||||
Db        241 ALLKFVDKDPK 251


RESULT 3
US-08-477-484B-2
; Sequence 2, Application US/08477484B
; Patent No. 5756699
;  GENERAL INFORMATION:
;    APPLICANT:  Better, Marc D.
;    APPLICANT:  Carroll, Stephen F.
;    APPLICANT:  Studnika, Gary M.
;    TITLE OF INVENTION:  Immunotoxins Comprising Ribosome-Inactivating
;    TITLE OF INVENTION:  Proteins
;    NUMBER OF SEQUENCES:  169
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  McAndrews, Held & Malloy, Ltd.
;      STREET:  500 West Madison Street, 34th floor
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  USA
;      ZIP:  60661
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/477,484B
;      FILING DATE:  07-JUN-1995
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/425,336
;      FILING DATE:  18-APR-1995
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/064,691
;      FILING DATE:  12-MAY-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/988,430
;      FILING DATE:  09-DEC-1992
;    PRIOR APPLICATION DATA:
```

```
;      APPLICATION NUMBER:  US 07/901,707
;      FILING DATE:  19-JUN-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/787,567
;      FILING DATE:  04-NOV-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  McNicholas, Janet M.
;      REGISTRATION NUMBER:  32,918
;      REFERENCE/DOCKET NUMBER:  11022US07/200-70.P3.C2A
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312/707-8889
;      TELEFAX:  312/707-9155
;      TELEX:  650 388-1248
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  251 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-477-484B-2

  Query Match             79.3%;  Score 1287;  DB 1;  Length 251;
  Best Local Similarity   100.0%;  Pred. No. 2.9e-122;
  Matches  251;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||||||||
Db        241 ALLKFVDKDPK 251


RESULT 4
US-08-646-360-2
; Sequence 2, Application US/08646360
; Patent No. 5837491
;  GENERAL INFORMATION:
;    APPLICANT:  Better, Marc D.
;    APPLICANT:  Carroll, Stephen F.
;    APPLICANT:  Studnika, Gary M.
;    TITLE OF INVENTION:  Immunotoxins Comprising Ribosome-Inactivating
;    TITLE OF INVENTION:  Proteins
;    NUMBER OF SEQUENCES:  173
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  McAndrews, Held & Malloy, Ltd.
;      STREET:  500 West Madison Street, 34th floor
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  USA
;      ZIP:  60661
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/646,360
;      FILING DATE:  13-MAY-1996
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  PCT/US94/05348
;      FILING DATE:  12-MAY-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/064,691
;      FILING DATE:  12-MAY-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/988,430
;      FILING DATE:  09-DEC-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/901,707
;      FILING DATE:  19-JUN-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/787,567
;      FILING DATE:  04-NOV-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  McNicholas, Janet M.
;      REGISTRATION NUMBER:  32,918
;      REFERENCE/DOCKET NUMBER:  200-70.P4
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312/707-8889
;      TELEFAX:  312/707-9155
;      TELEX:  650 388-1248
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  251 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-646-360-2

  Query Match             79.3%;  Score 1287;  DB 2;  Length 251;
  Best Local Similarity   100.0%;  Pred. No. 2.9e-122;
  Matches  251;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||||||||
Db        241 ALLKFVDKDPK 251


RESULT 5
US-08-621-803-247
; Sequence 247, Application US/08621803
; Patent No. 5851802
;  GENERAL INFORMATION:
;    APPLICANT:  Better, Marc D.
;    TITLE OF INVENTION:  Methods for Recombinant Microbial Production of
;    TITLE OF INVENTION:  Fusion Proteins and BPI-Derived Peptides
;    NUMBER OF SEQUENCES:  265
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Marshall, O'Toole, Gerstein, Murray & Borun
;      STREET:  6300 Sears Tower, 233 South Wacker Drive
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  United States of America
;      ZIP:  60606-6402
;    COMPUTER READABLE FORM:
```

```
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/621,803
;      FILING DATE:  22-MAR-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Borun, Michael F.
;      REGISTRATION NUMBER:  25,447
;      REFERENCE/DOCKET NUMBER:  27129/33199
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312/474-6300
;      TELEFAX:  312/474-0448
;      TELEX:  25-3856
;  INFORMATION FOR SEQ ID NO:  247:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  251 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-621-803-247

  Query Match             79.3%;  Score 1287;  DB 2;  Length 251;
  Best Local Similarity   100.0%;  Pred. No. 2.9e-122;
  Matches  251;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||||||||
Db        241 ALLKFVDKDPK 251


RESULT 6
US-08-839-765-2
; Sequence 2, Application US/08839765
; Patent No. 6146631
;  GENERAL INFORMATION:
;    APPLICANT:  Better, Marc D.
;    APPLICANT:  Carroll, Stephen F.
;    APPLICANT:  Studnika, Gary M.
;    TITLE OF INVENTION:  Immunotoxins Comprising Ribosome-Inactivating
;    TITLE OF INVENTION:  Proteins
;    NUMBER OF SEQUENCES:  169
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  McAndrews, Held & Malloy, Ltd.
;      STREET:  500 West Madison Street, 34th floor
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  USA
;      ZIP:  60661
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/839,765
;      FILING DATE:  15-APR-1997
;      CLASSIFICATION:  530
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/425,336
;      FILING DATE:  18-APR-1995
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/064,691
;      FILING DATE:  12-MAY-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/988,430
;      FILING DATE:  09-DEC-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/901,707
;      FILING DATE:  19-JUN-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/787,567
;      FILING DATE:  04-NOV-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  McNicholas, Janet M.
;      REGISTRATION NUMBER:  32,918
;      REFERENCE/DOCKET NUMBER:  11022US09/200-70.P3.C3
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312/707-8889
;      TELEFAX:  312/707-9155
;      TELEX:  650 388-1248
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  251 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-839-765-2

  Query Match             79.3%;  Score 1287;  DB 3;  Length 251;
  Best Local Similarity   100.0%;  Pred. No. 2.9e-122;
  Matches  251;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||||||||
Db        241 ALLKFVDKDPK 251


RESULT 7
US-09-136-389-2
; Sequence 2, Application US/09136389
; Patent No. 6146850
;  GENERAL INFORMATION:
;    APPLICANT:  Better, Marc D.
;    APPLICANT:  Carroll, Stephen F.
;    APPLICANT:  Studnika, Gary M.
;    TITLE OF INVENTION:  Immunotoxins Comprising Ribosome-Inactivating
;    TITLE OF INVENTION:  Proteins
;    NUMBER OF SEQUENCES:  173
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  McAndrews, Held & Malloy, Ltd.
;      STREET:  500 West Madison Street, 34th floor
;      CITY:  Chicago
```

```
;       STATE:  Illinois
;       COUNTRY:  USA
;       ZIP:  60661
;     COMPUTER READABLE FORM:
;       MEDIUM TYPE:  Floppy disk
;       COMPUTER:  IBM PC compatible
;       OPERATING SYSTEM:  PC-DOS/MS-DOS
;       SOFTWARE:  PatentIn Release #1.0, Version #1.25
;     CURRENT APPLICATION DATA:
;       APPLICATION NUMBER:  US/09/136,389
;       FILING DATE:
;       CLASSIFICATION:
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  08/646,360
;       FILING DATE:  13-MAY-1996
;       APPLICATION NUMBER:  PCT/US94/05348
;       FILING DATE:  12-MAY-1994
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 08/064,691
;       FILING DATE:  12-MAY-1993
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 07/988,430
;       FILING DATE:  09-DEC-1992
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 07/901,707
;       FILING DATE:  19-JUN-1992
;     PRIOR APPLICATION DATA:
;       APPLICATION NUMBER:  US 07/787,567
;       FILING DATE:  04-NOV-1991
;     ATTORNEY/AGENT INFORMATION:
;       NAME:  McNicholas, Janet M.
;       REGISTRATION NUMBER:  32,918
;       REFERENCE/DOCKET NUMBER:  200-70.P4
;     TELECOMMUNICATION INFORMATION:
;       TELEPHONE:  312/707-8889
;       TELEFAX:  312/707-9155
;       TELEX:  650 388-1248
;   INFORMATION FOR SEQ ID NO:  2:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  251 amino acids
;       TYPE:  amino acid
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  protein
US-09-136-389-2

  Query Match             79.3%;  Score 1287;  DB 3;  Length 251;
  Best Local Similarity   100.0%;  Pred. No. 2.9e-122;
  Matches  251;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||||||||
Db        241 ALLKFVDKDPK 251


RESULT 8
US-09-217-352-247
; Sequence 247, Application US/09217352
; Patent No. 6274344
;  GENERAL INFORMATION:
;    APPLICANT:  Better, Marc D.
;    TITLE OF INVENTION:  Methods for Recombinant Microbial Production of
;    TITLE OF INVENTION:  Fusion Proteins and BPI-Derived Peptides
;    NUMBER OF SEQUENCES:  265
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Marshall, O'Toole, Gerstein, Murray & Borun
;      STREET:  6300 Sears Tower, 233 South Wacker Drive
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  United States of America
;      ZIP:  60606-6402
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/217,352
;      FILING DATE:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/621,803
;      FILING DATE:  22-MAR-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Borun, Michael F.
;      REGISTRATION NUMBER:  25,447
;      REFERENCE/DOCKET NUMBER:  27129/33199
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312/474-6300
;      TELEFAX:  312/474-0448
;      TELEX:  25-3856
;   INFORMATION FOR SEQ ID NO:  247:
;     SEQUENCE CHARACTERISTICS:
;       LENGTH:  251 amino acids
;       TYPE:  amino acid
;       TOPOLOGY:  linear
;     MOLECULE TYPE:  protein
US-09-217-352-247

  Query Match             79.3%;  Score 1287;  DB 3;  Length 251;
  Best Local Similarity   100.0%;  Pred. No. 2.9e-122;
  Matches  251;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||||||||
Db        241 ALLKFVDKDPK 251


RESULT 9
US-09-610-838-2
; Sequence 2, Application US/09610838
; Patent No. 6376217
;  GENERAL INFORMATION:
;    APPLICANT:  Better, Marc D.
;    APPLICANT:  Carroll, Stephen F.
;    APPLICANT:  Studnika, Gary M.
```

```
;    TITLE OF INVENTION:  Immunotoxins Comprising Ribosome-Inactivating
;    TITLE OF INVENTION:  Proteins
;    NUMBER OF SEQUENCES:  173
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  McAndrews, Held & Malloy, Ltd.
;      STREET:  500 West Madison Street, 34th floor
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  USA
;      ZIP:  60661
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/610,838
;      FILING DATE:  06-JUL-2000
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/136,389
;      FILING DATE:  18-AUG-1998
;      APPLICATION NUMBER:  08/646,360
;      FILING DATE:  13-MAY-1996
;      APPLICATION NUMBER:  PCT/US94/05348
;      FILING DATE:  12-MAY-1994
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/064,691
;      FILING DATE:  12-MAY-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/988,430
;      FILING DATE:  09-DEC-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/901,707
;      FILING DATE:  19-JUN-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/787,567
;      FILING DATE:  04-NOV-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  McNicholas, Janet M.
;      REGISTRATION NUMBER:  32,918
;      REFERENCE/DOCKET NUMBER:  200-70.P4
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312/707-8889
;      TELEFAX:  312/707-9155
;      TELEX:  650 388-1248
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  251 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-09-610-838-2

  Query Match             79.3%;  Score 1287;  DB 3;  Length 251;
  Best Local Similarity   100.0%;  Pred. No. 2.9e-122;
  Matches  251;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||||||
Db        241 ALLKFVDKDPK 251


RESULT 10
US-09-711-485-2
; Sequence 2, Application US/09711485
; Patent No. 6649742
;  GENERAL INFORMATION:
;    APPLICANT:  Better, Marc D.
;    APPLICANT:  Carroll, Stephen F.
;    APPLICANT:  Studnika, Gary M.
;    TITLE OF INVENTION:  Immunotoxins Comprising Ribosome-Inactivating
;    TITLE OF INVENTION:  Proteins
;    NUMBER OF SEQUENCES:  169
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  McAndrews, Held & Malloy, Ltd.
;      STREET:  500 West Madison Street, 34th floor
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  USA
;      ZIP:  60661
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/711,485
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/839,765
;      FILING DATE:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/064,691
;      FILING DATE:  12-MAY-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/988,430
;      FILING DATE:  09-DEC-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/901,707
;      FILING DATE:  19-JUN-1992
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/787,567
;      FILING DATE:  04-NOV-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  McNicholas, Janet M.
;      REGISTRATION NUMBER:  32,918
;      REFERENCE/DOCKET NUMBER:  11022US09/200-70.P3.C3
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312/707-8889
;      TELEFAX:  312/707-9155
;      TELEX:  650 388-1248
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  251 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-09-711-485-2

  Query Match             79.3%;  Score 1287;  DB 4;  Length 251;
  Best Local Similarity   100.0%;  Pred. No. 2.9e-122;
  Matches  251;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
```

```
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
                 |||||||||||
Db        241 ALLKFVDKDPK 251


RESULT 11
US-09-645-603B-2
; Sequence 2, Application US/09645603B
; Patent No. 6652861
; GENERAL INFORMATION:
;  APPLICANT: LEE-HUANG, Sylvia
;  TITLE OF INVENTION: Anti-HIV and Anti-tumor Peptides and Truncated Polypeptides of
;  TITLE OF INVENTION:  map30 and gap31
;  FILE REFERENCE: LEE-HUANG 4A
;  CURRENT APPLICATION NUMBER: US/09/645,603B
;  CURRENT FILING DATE:  2000-08-25
;  PRIOR APPLICATION NUMBER: US 60/150,885
;  PRIOR FILING DATE: 1999-08-26
;  NUMBER OF SEQ ID NOS: 2
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 2
;   LENGTH: 251
;   TYPE: PRT
;   ORGANISM: Gelonium multiflorum
US-09-645-603B-2

  Query Match            79.3%;  Score 1287;  DB 4;  Length 251;
  Best Local Similarity  100.0%;  Pred. No. 2.9e-122;
  Matches  251;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
                 ||||||||||||
Db        241 ALLKFVDKDPK 251


RESULT 12
US-08-621-803-259
; Sequence 259, Application US/08621803
; Patent No. 5851802
;  GENERAL INFORMATION:
;    APPLICANT:  Better, Marc D.
;    TITLE OF INVENTION:  Methods for Recombinant Microbial Production of
;    TITLE OF INVENTION:  Fusion Proteins and BPI-Derived Peptides
;    NUMBER OF SEQUENCES:  265
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Marshall, O'Toole, Gerstein, Murray & Borun
;      STREET:  6300 Sears Tower, 233 South Wacker Drive
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  United States of America
;      ZIP:  60606-6402
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/621,803
;      FILING DATE:  22-MAR-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Borun, Michael F.
;      REGISTRATION NUMBER:  25,447
;      REFERENCE/DOCKET NUMBER:  27129/33199
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312/474-6300
;      TELEFAX:  312/474-0448
;      TELEX:  25-3856
;  INFORMATION FOR SEQ ID NO:  259:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  293 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-621-803-259

  Query Match            79.2%;  Score 1286;  DB 2;  Length 293;
  Best Local Similarity  98.8%;  Pred. No. 4.7e-122;
  Matches  250;  Conservative    3;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         23 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 82

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||:||||||||
Db         83 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGTYPSLEGEK 142

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        143 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 202

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        203 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 262

Qy        287 ALLKFVDKDPKTS 299
                 ||||||||||::
Db        263 ALLKFVDKDPKSA 275


RESULT 13
US-09-217-352-259
; Sequence 259, Application US/09217352
; Patent No. 6274344
;  GENERAL INFORMATION:
;    APPLICANT:  Better, Marc D.
;    TITLE OF INVENTION:  Methods for Recombinant Microbial Production of
;    TITLE OF INVENTION:  Fusion Proteins and BPI-Derived Peptides
;    NUMBER OF SEQUENCES:  265
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Marshall, O'Toole, Gerstein, Murray & Borun
;      STREET:  6300 Sears Tower, 233 South Wacker Drive
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  United States of America
;      ZIP:  60606-6402
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
```

```
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/217,352
;      FILING DATE:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/621,803
;      FILING DATE:  22-MAR-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Borun, Michael F.
;      REGISTRATION NUMBER:  25,447
;      REFERENCE/DOCKET NUMBER:  27129/33199
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312/474-6300
;      TELEFAX:  312/474-0448
;      TELEX:  25-3856
;  INFORMATION FOR SEQ ID NO:  259:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  293 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-09-217-352-259

  Query Match             79.2%;  Score 1286;  DB 3;  Length 293;
  Best Local Similarity   98.8%;  Pred. No. 4.7e-122;
  Matches  250;  Conservative    3;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         23 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 82

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||:|||||||||||
Db         83 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGTYPSLEGEK 142

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        143 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 202

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        203 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 262

Qy        287 ALLKFVDKDPKTS 299
              ||||||||||||::
Db        263 ALLKFVDKDPKSA 275


RESULT 14
US-08-621-803-253
; Sequence 253, Application US/08621803
; Patent No. 5851802
;  GENERAL INFORMATION:
;    APPLICANT:  Better, Marc D.
;    TITLE OF INVENTION:  Methods for Recombinant Microbial Production of
;    TITLE OF INVENTION:  Fusion Proteins and BPI-Derived Peptides
;    NUMBER OF SEQUENCES:  265
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Marshall, O'Toole, Gerstein, Murray & Borun
;      STREET:  6300 Sears Tower, 233 South Wacker Drive
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  United States of America
;      ZIP:  60606-6402
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/621,803
;      FILING DATE:  22-MAR-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Borun, Michael F.
;      REGISTRATION NUMBER:  25,447
;      REFERENCE/DOCKET NUMBER:  27129/33199
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  312/474-6300
;      TELEFAX:  312/474-0448
;      TELEX:  25-3856
;  INFORMATION FOR SEQ ID NO:  253:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  309 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-621-803-253

  Query Match             79.2%;  Score 1286;  DB 2;  Length 309;
  Best Local Similarity   98.8%;  Pred. No. 5.1e-122;
  Matches  250;  Conservative    3;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         23 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 82

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||:|||||||||||
Db         83 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGTYPSLEGEK 142

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        143 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 202

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        203 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 262

Qy        287 ALLKFVDKDPKTS 299
              ||||||||||||::
Db        263 ALLKFVDKDPKSA 275


RESULT 15
US-09-217-352-253
; Sequence 253, Application US/09217352
; Patent No. 6274344
;  GENERAL INFORMATION:
;    APPLICANT:  Better, Marc D.
;    TITLE OF INVENTION:  Methods for Recombinant Microbial Production of
;    TITLE OF INVENTION:  Fusion Proteins and BPI-Derived Peptides
;    NUMBER OF SEQUENCES:  265
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Marshall, O'Toole, Gerstein, Murray & Borun
;      STREET:  6300 Sears Tower, 233 South Wacker Drive
;      CITY:  Chicago
;      STATE:  Illinois
;      COUNTRY:  United States of America
;      ZIP:  60606-6402
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/217,352
;      FILING DATE:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/621,803
;      FILING DATE:  22-MAR-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Borun, Michael F.
;      REGISTRATION NUMBER:  25,447
;      REFERENCE/DOCKET NUMBER:  27129/33199
;    TELECOMMUNICATION INFORMATION:
```

; TELEPHONE: 312/474-6300
; TELEFAX: 312/474-0448
; TELEX: 25-3856
; INFORMATION FOR SEQ ID NO: 253:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 309 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-09-217-352-253

Query Match 79.2%; Score 1286; DB 3; Length 309;
Best Local Similarity 98.8%; Pred. No. 5.1e-122;
Matches 250; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

```
Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         23 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 82

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHPGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||:|||||||||||
Db         83 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHPGGTYPSLEGEK 142

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        143 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 202

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        203 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 262

Qy        287 ALLKFVDKDPKTS 299
              ||||||||||::
Db        263 ALLKFVDKDPKSA 275
```

Search completed: July 27, 2005, 17:15:07
Job time : 44 secs

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: July 27, 2005, 17:14:25 ; Search time 165 Seconds
(without alignments)
740.705 Million cell updates/sec

Title: US-10-074-596-1
Perfect score: 1623
Sequence: 1 MKGNMKVYWIKIAVATWFCC.....KTSLAAELIIQNYESLVGFD 316

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2105692 seqs, 386760381 residues

Total number of hits satisfying chosen parameters: 2105692

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_16Dec04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	1623	100.0	316	5	ABG71551	Abg71551 G. multif
2	1287	79.3	251	2	AAR63903	Aar63903 Type I ri
3	1287	79.3	251	8	ADG63044	Adg63044 Gelonium
4	1287	79.3	507	5	ABG71552	Abg71552 Murine sc
5	1286	79.2	293	2	AAW29300	Aaw29300 BPI pepti
6	1286	79.2	309	2	AAW29303	Aaw29303 BPI pepti
7	1286	79.2	332	2	AAW29294	Aaw29294 BPI pepti
8	1282	79.0	251	2	AAR63923	Aar63923 Type I RI
9	1279	78.8	251	2	AAR63921	Aar63921 Type I RI
10	1279	78.8	251	2	AAR63918	Aar63918 Type I RI
11	1279	78.8	251	2	AAR63920	Aar63920 Type I RI
12	1279	78.8	251	2	AAR63919	Aar63919 Type I RI
13	1279	78.8	251	2	AAR63924	Aar63924 Type I RI
14	1278	78.7	251	2	AAR63922	Aar63922 Type I RI
15	1278	78.7	251	2	AAR63917	Aar63917 Type I RI
16	1278	78.7	251	2	AAR63912	Aar63912 Type I RI
17	1275	78.6	251	2	AAR74177	Aar74177 Type I ri
18	1269	78.2	251	2	AAR37291	Aar37291 Plant typ
19	1269	78.2	251	2	AAR63914	Aar63914 Type I RI
20	1261	77.7	251	2	AAR63915	Aar63915 Type I RI
21	1252	77.1	251	2	AAR63916	Aar63916 Type I RI
22	1242.5	76.6	258	2	AAR22227	Aar22227 Gelonin t
23	1176	72.5	235	2	AAR63913	Aar63913 Type I RI
24	387	23.8	574	1	AAP70325	Aap70325 Sequence
25	386	23.8	332	1	AAP70097	Aap70097 Ricin A.
26	386	23.8	332	1	AAP70838	Aap70838 Sequence
27	386	23.8	332	1	AAP95639	Aap95639 Ricin A e
28	386	23.8	562	1	AAP90079	Aap90079 Ricin D.
29	386	23.8	576	1	AAP70326	Aap70326 Sequence
30	386	23.8	576	2	AAW25787	Aaw25787 Castorbea
31	386	23.8	576	2	AAY55892	Aay55892 Castor be
32	386	23.8	576	3	AAY78592	Aay78592 Ricinus c
33	386	23.8	576	4	AAG78301	Aag78301 Castor be
34	386	23.8	576	4	AAG78302	Aag78302 Castor be
35	386	23.8	576	7	ABR82754	Abr82754 R. commun
36	386	23.8	576	7	ADF74986	Adf74986 Wild type
37	385	23.7	574	1	AAP94793	Aap94793 DNA seque
38	381.5	23.5	565	4	AAG78304	Aag78304 Modified
39	378	23.3	332	2	AAR06554	Aar06554 Ricin A g
40	375.5	23.1	565	1	AAP50166	Aap50166 Sequence
41	375.5	23.1	565	4	AAG78300	Aag78300 Castor be
42	373.5	23.0	565	1	AAP60240	Aap60240 Preproric
43	366	22.6	290	2	AAW21699	Aaw21699 Ricin A-c
44	366	22.6	290	2	AAW25136	Aaw25136 Ricin A-c
45	351.5	21.7	554	2	AAR70827	Aar70827 Anti-cata

ALIGNMENTS

RESULT 1
ABG71551
ID ABG71551 standard; protein; 316 AA.
XX
AC ABG71551;
XX
DT 08-JAN-2003 (first entry)
XX
DE G. multiflorum recombinant gelonin (rGel) toxin.
XX
KW Modified protein; reduced antigenicity; modified toxin; gelonin;
KW designer toxin; immunotoxin; proteinaceous compound; cancer;
KW microbial pathogenesis; acquired immunodeficiency syndrome; AIDS;
KW autoimmune disease; hyperproliferative disorder; leukaemia; arthritis;
KW inflammatory disease; cardiovascular disease; diabetes;
KW pathogenic disease; cytostatic; antiarthritic; antiinflammatory;
KW cardiant; antidiabetic; virucide; protozoacide; fungicide; antibacterial;
KW recombinant gelonin; rGel.
XX
OS Gelonium multiflorum.
XX
PN WO200269886-A2.
XX
PD 12-SEP-2002.
XX
PF 12-FEB-2002; 2002WO-US004195.
XX
PR 12-FEB-2001; 2001US-0268402P.
XX
PA (RERE-) RES DEV FOUND.
XX
PI Rosenblum MG, Cheung L;
XX
DR WPI; 2002-750431/81.
DR N-PSDB; ABS56021.
XX
PT Generating a modified protein with reduced antigenicity for treating
PT cancer, AIDS, autoimmune diseases, comprises identifying a protein region
PT antigenic in the first subject using antiserum from either the first or a
PT second subject.
XX
PS Claim 63; Page 169-170; 176pp; English.
XX
CC The present invention relates to a method of generating a modified
CC protein with reduced antigenicity while maintaining its biological
CC activity. The method comprises identifying a region of the protein that
CC is antigenic in a first subject using antiserum from either the first
CC subject or a second subject of the same species as the first subject. In

CC particular the invention discloses modified toxin compounds, for example
CC gelonin toxin derived from Gelonium multiflorum, that are truncated
CC and/or possess reduced antigenicity. Such designer toxins have
CC therapeutic, diagnostic, and preventative benefits, particularly as
CC immunotoxins. The method of the invention is useful for generating
CC proteinaceous compounds with less antigenicity. The immunotoxin and
CC gelonin toxin are useful for treating cancer, e.g. prostate, lung, brain,
CC skin, liver, breast, lymphoid, stomach, testicular, ovarian, pancreatic,
CC bone, bone marrow, head and neck, cervical, oesophagus, eye, gall
CC bladder, kidney, adrenal glands, heart, colon, or blood cancer. The
CC compositions of the invention are also useful for treating microbial
CC pathogenesis, acquired immunodeficiency syndrome (AIDS), autoimmune
CC diseases, hyperproliferative disorders including cancer, leukaemias,
CC arthritis, inflammatory diseases, cardiovascular diseases, pathogenic
CC diseases, and diabetes. The method provides less antigenic proteins,
CC peptides and polypeptides, which are more effective than prior art. The
CC present sequence represents G. multiflorum recombinant gelonin (rGel)
XX
SQ Sequence 316 AA;

Query Match 100.0%; Score 1623; DB 5; Length 316;
Best Local Similarity 100.0%; Pred. No. 1.5e-146;
Matches 316; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 MKGNMKVYWIKIAVATWFCCTTIVLGSTARIFSLPTNDEEETSKTLGLDTVSFSTKGATY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MKGNMKVYWIKIAVATWFCCTTIVLGSTARIFSLPTNDEEETSKTLGLDTVSFSTKGATY 60

Qy         61 ITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDNGQLAEIAIDVTSVY 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDNGQLAEIAIDVTSVY 120

Qy        121 VVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEKAYRETTDLGIEPLR 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 VVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEKAYRETTDLGIEPLR 180

Qy        181 IGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNNFQQRIRPANNTISL 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 IGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNNFQQRIRPANNTISL 240

Qy        241 ENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKIALLKFVDKDPKTSL 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 ENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKIALLKFVDKDPKTSL 300

Qy        301 AAELIIQNYESLVGFD 316
              ||||||||||||||||
Db        301 AAELIIQNYESLVGFD 316
```

RESULT 2
AAR63903
ID AAR63903 standard; protein; 251 AA.
XX
AC AAR63903;
XX
DT 25-MAR-2003 (revised)
DT 27-JUL-1995 (first entry)
XX
DE Type I ribosome-inactivating protein gelonin.
XX
KW Type I ribosome-inactivating proteins; RIPs; gelonin;
KW cytotoxic therapeutic agents; autoimmune disease; cancer;
KW graft-versus-host disease.
XX
OS Gelonium multiflorum.
XX
PN WO9426910-A1.
XX
PD 24-NOV-1994.
XX
PF 12-MAY-1994; 94WO-US005348.
XX
PR 12-MAY-1993; 93US-00064691.
XX
PA (XOMA) XOMA CORP.
XX
PI Better MD, Carroll SF, Studnicka GM;
XX
DR WPI; 1995-006804/01.
DR N-PSDB; AAQ75532.
XX
PT Polynucleotide(s) encoding type I ribosome-inactivating proteins - which
PT are suitable for use as components of cytotoxic therapeutic agents.
XX
PS Example 1; Fig 1; 221pp; English.
XX
CC AAQ75532 encodes AAR63903 type I ribosome-inactivating protein (RIP)
CC gelonin, one of the nine RIPs described in AAR63903-R63911. RIPs are key
CC components of cytotoxic therapeutic agents (CTAs), which include gene
CC fusion products and immunoconjugates. CTAs may be used to selectively
CC eliminate any cell type to which a RIP component is targetted, by the
CC specific binding capacity of the second component of the agent. They can
CC be used in the treatment of diseases where the elimination of a
CC particular cell type is desired, such as autoimmune disease, cancer and
CC graft-versus-host disease. (Updated on 25-MAR-2003 to correct PN field.)
XX
SQ Sequence 251 AA;

Query Match 79.3%; Score 1287; DB 2; Length 251;
Best Local Similarity 100.0%; Pred. No. 1.6e-114;
Matches 251; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||||||||
Db        241 ALLKFVDKDPK 251
```

RESULT 3
ADG63044
ID ADG63044 standard; protein; 251 AA.
XX
AC ADG63044;
XX
DT 11-MAR-2004 (first entry)
XX
DE Gelonium anti-HIV protein 31kDa (GAP31).
XX
KW anti-HIV; cytostatic; peptide therapy; anti-tumour; antiviral; MAP30;
KW GAP31; HIV; tumour; gelonium anti-HIV protein 31kDa.
XX
OS Gelonium multiflorum.
XX
PN US6652861-B1.
XX
PD 25-NOV-2003.
XX
PF 25-AUG-2000; 2000US-00645603.
XX
PR 26-AUG-1999; 99US-0150885P.
XX

PA (UYNY) UNIV NEW YORK STATE.
XX
PI Lee-Huang S;
XX
DR WPI; 2004-050519/05.
XX
PT New MAP30 or GAP31 peptides or polypeptides having an anti-tumor and
PT antiviral activity, useful for treating human immunodeficiency virus
PT infection or tumor.
XX
PS Example 1; SEQ ID NO 2; 22pp; English.
XX
CC The invention describes an isolated peptide or polypeptide having an anti
CC -tumour and antiviral activity. Also described is a composition
CC comprising the isolated peptide or polypeptide, and a carrier, excipient
CC or auxiliary agent. Specifically claimed are MAP30 or GAP31 peptides or
CC polypeptides. The peptide or polypeptide is useful for treating HIV
CC infection, and tumour. This is the amino acid sequence of Gelonium anti-
CC HIV protein 30kDa (MAP30).
XX
SQ Sequence 251 AA;

Query Match 79.3%; Score 1287; DB 8; Length 251;
Best Local Similarity 100.0%; Pred. No. 1.6e-114;
Matches 251; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||||||| 
Db        241 ALLKFVDKDPK 251
```

RESULT 4
ABG71552
ID ABG71552 standard; protein; 507 AA.
XX
AC ABG71552;
XX
DT 08-JAN-2003 (first entry)
XX
DE Murine scfvMEL/G. multiflorum rGel fusion protein.
XX
KW Modified protein; reduced antigenicity; modified toxin; gelonin;
KW designer toxin; immunotoxin; proteinaceous compound; cancer;
KW microbial pathogenesis; acquired immunodeficiency syndrome; AIDS;
KW autoimmune disease; hyperproliferative disorder; leukaemia; arthritis;
KW inflammatory disease; cardiovascular disease; diabetes;
KW pathogenic disease; cytostatic; antiarthritic; antiinflammatory;
KW cardiant; antidiabetic; virucide; protozoacide; fungicide; antibacterial;
KW murine; single-chain ZME-018 antibody; recombinant gelonin; rGel;
KW scfvMEL/rGel; mutant; mutein.
XX
OS Mus sp.
OS Gelonium multiflorum.
OS Synthetic.
OS Chimeric.
XX
PN WO200269886-A2.
XX
PD 12-SEP-2002.
XX
PF 12-FEB-2002; 2002WO-US004195.
XX
PR 12-FEB-2001; 2001US-0268402P.
XX
PA (RERE-) RES DEV FOUND.
XX
PI Rosenblum MG, Cheung L;
XX
DR WPI; 2002-750431/81.
DR N-PSDB; ABS56029.
XX
PT Generating a modified protein with reduced antigenicity for treating
PT cancer, AIDS, autoimmune diseases, comprises identifying a protein region
PT antigenic in the first subject using antiserum from either the first or a
PT second subject.
XX
PS Disclosure; Page 174-176; 176pp; English.
XX
CC The present invention relates to a method of generating a modified
CC protein with reduced antigenicity while maintaining its biological
CC activity. The method comprises identifying a region of the protein that
CC is antigenic in a first subject using antiserum from either the first
CC subject or a second subject of the same species as the first subject. In
CC particular the invention discloses modified toxin compounds, for example
CC gelonin toxin derived from Gelonium multiflorum, that are truncated
CC and/or possess reduced antigenicity. Such designer toxins have
CC therapeutic, diagnostic, and preventative benefits, particularly as
CC immunotoxins. The method of the invention is useful for generating
CC proteinaceous compounds with less antigenicity. The immunotoxin and
CC gelonin toxin are useful for treating cancer, e.g. prostate, lung, brain,
CC skin, liver, breast, lymphoid, stomach, testicular, ovarian, pancreatic,
CC bone, bone marrow, head and neck, cervical, oesophagus, eye, gall
CC bladder, kidney, adrenal glands, heart, colon, or blood cancer. The
CC compositions of the invention are also useful for treating microbial
CC pathogenesis, acquired immunodeficiency syndrome (AIDS), autoimmune
CC diseases, hyperproliferative disorders including cancer, leukaemias,
CC arthritis, inflammatory diseases, cardiovascular diseases, pathogenic
CC diseases, and diabetes. The method provides less antigenic proteins,
CC peptides and polypeptides, which are more effective than prior art. The
CC present sequence represents murine single-chain ZME-018 antibody/G.
CC multiflorum recombinant gelonin (rGel) (scfvMEL/rGel) fusion protein
XX
SQ Sequence 507 AA;

Query Match 79.3%; Score 1287; DB 5; Length 507;
Best Local Similarity 100.0%; Pred. No. 4.5e-114;
Matches 251; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        257 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 316

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        317 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 376

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        377 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 436

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        437 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 496

Qy        287 ALLKFVDKDPK 297
              ||||||||||| 
Db        497 ALLKFVDKDPK 507
```

RESULT 5

```
AAW29300
ID   AAW29300 standard; protein; 293 AA.
XX
AC   AAW29300;
XX
DT   20-APR-1998  (first entry)
XX
DE   BPI peptide fusion protein pING3797 vector construct protein.
XX
KW   Bactericidal/permeability increasing peptide; BPI; fusion protein;
KW   bacterial infection; fungal infection; endotoxin; heparin; angiogenesis;
KW   fungicidal; recombinant DNA; vector.
XX
OS   Synthetic.
OS   Pectobacterium carotovorum.
OS   Homo sapiens.
OS   Chimeric.
XX
PN   WO9735009-A1.
XX
PD   25-SEP-1997.
XX
PF   18-MAR-1997;   97WO-US005287.
XX
PR   22-MAR-1996;   96US-00621803.
XX
PA   (XOMA ) XOMA CORP.
XX
PI   Better MD;
XX
DR   WPI; 1997-480215/44.
DR   N-PSDB; AAT86336.
XX
PT   Recombinant production of bactericidal/permeability increasing protein -
PT   by expression as a fusion protein in microbial host cells, then cleaving
PT   the BPI peptide from the carrier.
XX
PS   Example 1; Page 160-161; 186pp; English.
XX
CC   A new recombinant DNA vector construct has been developed which encodes a
CC   fusion protein and is suitable for introduction into a bacterial host.
CC   The vector comprises: (a) DNA encoding at least one cationic
CC   bactericidal/permeability increasing peptide (BPI), (b) DNA encoding a
CC   carrier protein, and (c) DNA encoding an amino acid (aa) cleavage site
CC   located between (a) and (b). The present sequence represents the protein
CC   from the pING3797 vector construct which codes for a BPI fusion protein.
CC   The peptides have many uses including the treatment of bacterial and
CC   fungal infections. BPI peptides also bind to endotoxins and heparin,
CC   neutralising their effects. The peptides have further been shown to
CC   inhibit angiogenesis (partly due to heparin-binding activity). The fusion
CC   proteins have been found to be expressed in large amounts without
CC   significant proteolysis, and in some cases are actually secreted from the
CC   host cells. This allows the indirect production of anti-microbial BPI
CC   peptides in microbial hosts
XX
SQ   Sequence 293 AA;

  Query Match             79.2%;  Score 1286;  DB 2;  Length 293;
  Best Local Similarity   98.8%;  Pred. No. 2.5e-114;
  Matches  250;  Conservative    3;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         23 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 82

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||:|||||||||||
Db         83 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLLFGGTYPSLEGEK 142

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        143 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 202

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        203 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 262

Qy        287 ALLKFVDKDPKTS 299
              ||||||||||::
Db        263 ALLKFVDKDPKSA 275


RESULT 6
AAW29303
ID   AAW29303 standard; protein; 309 AA.
XX
AC   AAW29303;
XX
DT   20-APR-1998  (first entry)
XX
DE   BPI peptide fusion protein pING3795 vector construct protein.
XX
KW   Bactericidal/permeability increasing peptide; BPI; fusion protein;
KW   bacterial infection; fungal infection; endotoxin; heparin; angiogenesis;
KW   fungicidal; recombinant DNA; vector.
XX
OS   Synthetic.
OS   Pectobacterium carotovorum.
OS   Homo sapiens.
OS   Chimeric.
XX
PN   WO9735009-A1.
XX
PD   25-SEP-1997.
XX
PF   18-MAR-1997;   97WO-US005287.
XX
PR   22-MAR-1996;   96US-00621803.
XX
PA   (XOMA ) XOMA CORP.
XX
PI   Better MD;
XX
DR   WPI; 1997-480215/44.
DR   N-PSDB; AAT86341.
XX
PT   Recombinant production of bactericidal/permeability increasing protein -
PT   by expression as a fusion protein in microbial host cells, then cleaving
PT   the BPI peptide from the carrier.
XX
PS   Example 1; Page 152-153; 186pp; English.
XX
CC   A new recombinant DNA vector construct has been developed which encodes a
CC   fusion protein and is suitable for introduction into a bacterial host.
CC   The vector comprises: (a) DNA encoding at least one cationic
CC   bactericidal/permeability increasing peptide (BPI), (b) DNA encoding a
CC   carrier protein, and (c) DNA encoding an amino acid (aa) cleavage site
CC   located between (a) and (b). The present sequence represents the protein
CC   from the pING3795 vector construct which codes for a BPI fusion protein.
CC   The peptides have many uses including the treatment of bacterial and
CC   fungal infections. BPI peptides also bind to endotoxins and heparin,
CC   neutralising their effects. The peptides have further been shown to
CC   inhibit angiogenesis (partly due to heparin-binding activity). The fusion
CC   proteins have been found to be expressed in large amounts without
CC   significant proteolysis, and in some cases are actually secreted from the
CC   host cells. This allows the indirect production of anti-microbial BPI
CC   peptides in microbial hosts
XX
SQ   Sequence 309 AA;

  Query Match             79.2%;  Score 1286;  DB 2;  Length 309;
  Best Local Similarity   98.8%;  Pred. No. 2.7e-114;
  Matches  250;  Conservative    3;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
```

```
Db         23 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 82

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||:|||||||
Db         83 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGTYPSLEGEK 142

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        143 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 202

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        203 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 262

Qy        287 ALLKFVDKDPKTS 299
              ||||||||||::
Db        263 ALLKFVDKDPKSA 275
```

RESULT 7
AAW29294
ID AAW29294 standard; protein; 332 AA.
XX
AC AAW29294;
XX
DT 20-APR-1998 (first entry)
XX
DE BPI peptide fusion protein pING3793 vector construct protein.
XX
KW Bactericidal/permeability increasing peptide; BPI; fusion protein;
KW bacterial infection; fungal infection; endotoxin; heparin; angiogenesis;
KW fungicidal; recombinant DNA; vector.
XX
OS Synthetic.
OS Pectobacterium carotovorum.
OS Homo sapiens.
OS Chimeric.
XX
PN WO9735009-A1.
XX
PD 25-SEP-1997.
XX
PF 18-MAR-1997; 97WO-US005287.
XX
PR 22-MAR-1996; 96US-00621803.
XX
PA (XOMA) XOMA CORP.
XX
PI Better MD;
XX
DR WPI; 1997-480215/44.
DR N-PSDB; AAT86332.
XX
PT Recombinant production of bactericidal/permeability increasing protein -
PT by expression as a fusion protein in microbial host cells, then cleaving
PT the BPI peptide from the carrier.
XX
PS Example 1; Page 148-150; 186pp; English.
XX
CC A new recombinant DNA vector construct has been developed which encodes a
CC fusion protein and is suitable for introduction into a bacterial host.
CC The vector comprises: (a) DNA encoding at least one cationic
CC bactericidal/permeability increasing peptide (BPI), (b) DNA encoding a
CC carrier protein, and (c) DNA encoding an amino acid (aa) cleavage site
CC located between (a) and (b). The present sequence represents the protein
CC from the pING3793 vector construct which codes for a BPI fusion protein.
CC The peptides have many uses including the treatment of bacterial and
CC fungal infections. BPI peptides also bind to endotoxins and heparin,
CC neutralising their effects. The peptides have further been shown to
CC inhibit angiogenesis (partly due to heparin-binding activity). The fusion
CC proteins have been found to be expressed in large amounts without
CC significant proteolysis, and in some cases are actually secreted from the
CC host cells. This allows the indirect production of anti-microbial BPI
CC peptides in microbial hosts
XX
SQ Sequence 332 AA;

```
  Query Match             79.2%;  Score 1286;  DB 2;  Length 332;
  Best Local Similarity   98.8%;  Pred. No. 3e-114;
  Matches  250;  Conservative    3;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         23 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 82

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||:|||||||
Db         83 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGTYPSLEGEK 142

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        143 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 202

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        203 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 262

Qy        287 ALLKFVDKDPKTS 299
              ||||||||||::
Db        263 ALLKFVDKDPKSA 275
```

RESULT 8
AAR63923
ID AAR63923 standard; protein; 251 AA.
XX
AC AAR63923;
XX
DT 25-MAR-2003 (revised)
DT 27-JUL-1995 (first entry)
XX
DE Type I RIP gelonin analog Gel(C103).
XX
KW Type I ribosome-inactivating proteins; RIPs; gelonin;
KW cytotoxic therapeutic agents; autoimmune disease; cancer;
KW graft-versus-host disease.
XX
OS Gelonium multiflorum.
XX
PN WO9426910-A1.
XX
PD 24-NOV-1994.
XX
PF 12-MAY-1994; 94WO-US005348.
XX
PR 12-MAY-1993; 93US-00064691.
XX
PA (XOMA) XOMA CORP.
XX
PI Better MD, Carroll SF, Studnicka GM;
XX
DR WPI; 1995-006804/01.
XX
PT Polynucleotide(s) encoding type I ribosome-inactivating proteins - which
PT are suitable for use as components of cytotoxic therapeutic agents.
XX
PS Example 3; Page 187-188; 221pp; English.
XX
CC AAR63912-R63924 are analogs of AAR63903 type I ribosome-inactivating
CC protein (RIP) gelonin, one of the nine RIPs described in AAR63903-R63911.
CC RIPs are key components of cytotoxic therapeutic agents (CTAs), which
CC include gene fusion products and immunoconjugates. CTAs may be used to
CC selectively eliminate any cell type to which a RIP component is
CC targetted, by the specific binding capacity of the second component of
CC the agent. They can be used in the treatment of diseases where the
CC elimination of a particular cell type is desired, such as autoimmune

```
CC   disease, cancer and graft-versus-host disease. (Updated on 25-MAR-2003 to
CC   correct PN field.)
XX
SQ   Sequence 251 AA;

  Query Match             79.0%;  Score 1282;  DB 2;  Length 251;
  Best Local Similarity   99.6%;  Pred. No. 4.9e-114;
  Matches  250;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              |||||||||||||||||||||||||||||||||||| |||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTCKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||||||| 
Db        241 ALLKFVDKDPK 251


RESULT 9
AAR63921
ID   AAR63921 standard; protein; 251 AA.
XX
AC   AAR63921;
XX
DT   25-MAR-2003  (revised)
DT   27-JUL-1995  (first entry)
XX
DE   Type I RIP gelonin analog Gel(C10).
XX
KW   Type I ribosome-inactivating proteins; RIPs; gelonin;
KW   cytotoxic therapeutic agents; autoimmune disease; cancer;
KW   graft-versus-host disease.
XX
OS   Gelonium multiflorum.
XX
PN   WO9426910-A1.
XX
PD   24-NOV-1994.
XX
PF   12-MAY-1994;   94WO-US005348.
XX
PR   12-MAY-1993;   93US-00064691.
XX
PA   (XOMA ) XOMA CORP.
XX
PI   Better MD,  Carroll SF,  Studnicka GM;
XX
DR   WPI; 1995-006804/01.
XX
PT   Polynucleotide(s) encoding type I ribosome-inactivating proteins - which
PT   are suitable for use as components of cytotoxic therapeutic agents.
XX
PS   Example 3; Page 186; 221pp; English.
XX
CC   AAR63912-R63924 are analogs of AAR63903 type I ribosome-inactivating
CC   protein (RIP) gelonin, one of the nine RIPs described in AAR63903-R63911.
CC   RIPs are key components of cytotoxic therapeutic agents (CTAs), which
CC   include gene fusion products and immunoconjugates. CTAs may be used to
CC   selectively eliminate any cell type to which a RIP component is
CC   targetted, by the specific binding capacity of the second component of
CC   the agent. They can be used in the treatment of diseases where the
CC   elimination of a particular cell type is desired, such as autoimmune
CC   disease, cancer and graft-versus-host disease. (Updated on 25-MAR-2003 to
CC   correct PN field.)
XX
SQ   Sequence 251 AA;

  Query Match             78.8%;  Score 1279;  DB 2;  Length 251;
  Best Local Similarity   99.6%;  Pred. No. 9.5e-114;
  Matches  250;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTCGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||||||| 
Db        241 ALLKFVDKDPK 251


RESULT 10
AAR63918
ID   AAR63918 standard; protein; 251 AA.
XX
AC   AAR63918;
XX
DT   25-MAR-2003  (revised)
DT   27-JUL-1995  (first entry)
XX
DE   Type I RIP gelonin analog Gel(C248).
XX
KW   Type I ribosome-inactivating proteins; RIPs; gelonin;
KW   cytotoxic therapeutic agents; autoimmune disease; cancer;
KW   graft-versus-host disease.
XX
OS   Gelonium multiflorum.
XX
PN   WO9426910-A1.
XX
PD   24-NOV-1994.
XX
PF   12-MAY-1994;   94WO-US005348.
XX
PR   12-MAY-1993;   93US-00064691.
XX
PA   (XOMA ) XOMA CORP.
XX
PI   Better MD,  Carroll SF,  Studnicka GM;
XX
DR   WPI; 1995-006804/01.
XX
PT   Polynucleotide(s) encoding type I ribosome-inactivating proteins - which
PT   are suitable for use as components of cytotoxic therapeutic agents.
XX
PS   Example 3; Page 183-184; 221pp; English.
XX
CC   AAR63912-R63924 are analogs of AAR63903 type I ribosome-inactivating
CC   protein (RIP) gelonin, one of the nine RIPs described in AAR63903-R63911.
CC   RIPs are key components of cytotoxic therapeutic agents (CTAs), which
CC   include gene fusion products and immunoconjugates. CTAs may be used to
CC   selectively eliminate any cell type to which a RIP component is
CC   targetted, by the specific binding capacity of the second component of
```

CC the agent. They can be used in the treatment of diseases where the
CC elimination of a particular cell type is desired, such as autoimmune
CC disease, cancer and graft-versus-host disease. (Updated on 25-MAR-2003 to
CC correct PN field.)
XX
SQ Sequence 251 AA;

Query Match 78.8%; Score 1279; DB 2; Length 251;
Best Local Similarity 99.6%; Pred. No. 9.5e-114;
Matches 250; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```
Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||| |||
Db        241 ALLKFVDCDPK 251
```

RESULT 11
AAR63920
ID AAR63920 standard; protein; 251 AA.
XX
AC AAR63920;
XX
DT 25-MAR-2003 (revised)
DT 27-JUL-1995 (first entry)
XX
DE Type I RIP gelonin analog Gel(C244).
XX
KW Type I ribosome-inactivating proteins; RIPs; gelonin;
KW cytotoxic therapeutic agents; autoimmune disease; cancer;
KW graft-versus-host disease.
XX
OS Gelonium multiflorum.
XX
PN WO9426910-A1.
XX
PD 24-NOV-1994.
XX
PF 12-MAY-1994; 94WO-US005348.
XX
PR 12-MAY-1993; 93US-00064691.
XX
PA (XOMA) XOMA CORP.
XX
PI Better MD, Carroll SF, Studnicka GM;
XX
DR WPI; 1995-006804/01.
XX
PT Polynucleotide(s) encoding type I ribosome-inactivating proteins - which
PT are suitable for use as components of cytotoxic therapeutic agents.
XX
PS Example 3; Page 185; 221pp; English.
XX
CC AAR63912-R63924 are analogs of AAR63903 type I ribosome-inactivating
CC protein (RIP) gelonin, one of the nine RIPs described in AAR63903-R63911.
CC RIPs are key components of cytotoxic therapeutic agents (CTAs), which
CC include gene fusion products and immunoconjugates. CTAs may be used to
CC selectively eliminate any cell type to which a RIP component is

CC targetted, by the specific binding capacity of the second component of
CC the agent. They can be used in the treatment of diseases where the
CC elimination of a particular cell type is desired, such as autoimmune
CC disease, cancer and graft-versus-host disease. (Updated on 25-MAR-2003 to
CC correct PN field.)
XX
SQ Sequence 251 AA;

Query Match 78.8%; Score 1279; DB 2; Length 251;
Best Local Similarity 99.6%; Pred. No. 9.5e-114;
Matches 250; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```
Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||| |||||||
Db        241 ALLCFVDKDPK 251
```

RESULT 12
AAR63919
ID AAR63919 standard; protein; 251 AA.
XX
AC AAR63919;
XX
DT 25-MAR-2003 (revised)
DT 27-JUL-1995 (first entry)
XX
DE Type I RIP gelonin analog Gel(C239).
XX
KW Type I ribosome-inactivating proteins; RIPs; gelonin;
KW cytotoxic therapeutic agents; autoimmune disease; cancer;
KW graft-versus-host disease.
XX
OS Gelonium multiflorum.
XX
PN WO9426910-A1.
XX
PD 24-NOV-1994.
XX
PF 12-MAY-1994; 94WO-US005348.
XX
PR 12-MAY-1993; 93US-00064691.
XX
PA (XOMA) XOMA CORP.
XX
PI Better MD, Carroll SF, Studnicka GM;
XX
DR WPI; 1995-006804/01.
XX
PT Polynucleotide(s) encoding type I ribosome-inactivating proteins - which
PT are suitable for use as components of cytotoxic therapeutic agents.
XX
PS Example 3; Page 184; 221pp; English.
XX
CC AAR63912-R63924 are analogs of AAR63903 type I ribosome-inactivating
CC protein (RIP) gelonin, one of the nine RIPs described in AAR63903-R63911.
CC RIPs are key components of cytotoxic therapeutic agents (CTAs), which
CC include gene fusion products and immunoconjugates. CTAs may be used to

CC selectively eliminate any cell type to which a RIP component is
CC targetted, by the specific binding capacity of the second component of
CC the agent. They can be used in the treatment of diseases where the
CC elimination of a particular cell type is desired, such as autoimmune
CC disease, cancer and graft-versus-host disease. (Updated on 25-MAR-2003 to
CC correct PN field.)
XX
SQ Sequence 251 AA;

Query Match 78.8%; Score 1279; DB 2; Length 251;
Best Local Similarity 99.6%; Pred. No. 9.5e-114;
Matches 250; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```
Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPCI 240

Qy        287 ALLKFVDKDPK 297
              ||||||||||||
Db        241 ALLKFVDKDPK 251
```

RESULT 13
AAR63924
ID AAR63924 standard; protein; 251 AA.
XX
AC AAR63924;
XX
DT 25-MAR-2003 (revised)
DT 27-JUL-1995 (first entry)
XX
DE Type I RIP gelonin analog Gel(C184).
XX
KW Type I ribosome-inactivating proteins; RIPs; gelonin;
KW cytotoxic therapeutic agents; autoimmune disease; cancer;
KW graft-versus-host disease.
XX
OS Gelonium multiflorum.
XX
PN WO9426910-A1.
XX
PD 24-NOV-1994.
XX
PF 12-MAY-1994; 94WO-US005348.
XX
PR 12-MAY-1993; 93US-00064691.
XX
PA (XOMA) XOMA CORP.
XX
PI Better MD, Carroll SF, Studnicka GM;
XX
DR WPI; 1995-006804/01.
XX
PT Polynucleotide(s) encoding type I ribosome-inactivating proteins - which
PT are suitable for use as components of cytotoxic therapeutic agents.
XX
PS Example 3; Page 188-189; 221pp; English.
XX
CC AAR63912-R63924 are analogs of AAR63903 type I ribosome-inactivating
CC protein (RIP) gelonin, one of the nine RIPs described in AAR63903-R63911.
CC RIPs are key components of cytotoxic therapeutic agents (CTAs), which

CC include gene fusion products and immunoconjugates. CTAs may be used to
CC selectively eliminate any cell type to which a RIP component is
CC targetted, by the specific binding capacity of the second component of
CC the agent. They can be used in the treatment of diseases where the
CC elimination of a particular cell type is desired, such as autoimmune
CC disease, cancer and graft-versus-host disease. (Updated on 25-MAR-2003 to
CC correct PN field.)
XX
SQ Sequence 251 AA;

Query Match 78.8%; Score 1279; DB 2; Length 251;
Best Local Similarity 99.6%; Pred. No. 9.5e-114;
Matches 250; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```
Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||| ||||||||||||||||||||||||||||||||||||||||||||||||||||||||| 
Db        181 FQQCIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||||||||
Db        241 ALLKFVDKDPK 251
```

RESULT 14
AAR63922
ID AAR63922 standard; protein; 251 AA.
XX
AC AAR63922;
XX
DT 25-MAR-2003 (revised)
DT 27-JUL-1995 (first entry)
XX
DE Type I RIP gelonin analog Gel(C60).
XX
KW Type I ribosome-inactivating proteins; RIPs; gelonin;
KW cytotoxic therapeutic agents; autoimmune disease; cancer;
KW graft-versus-host disease.
XX
OS Gelonium multiflorum.
XX
PN WO9426910-A1.
XX
PD 24-NOV-1994.
XX
PF 12-MAY-1994; 94WO-US005348.
XX
PR 12-MAY-1993; 93US-00064691.
XX
PA (XOMA) XOMA CORP.
XX
PI Better MD, Carroll SF, Studnicka GM;
XX
DR WPI; 1995-006804/01.
XX
PT Polynucleotide(s) encoding type I ribosome-inactivating proteins - which
PT are suitable for use as components of cytotoxic therapeutic agents.
XX
PS Example 3; Page 187; 221pp; English.
XX
CC AAR63912-R63924 are analogs of AAR63903 type I ribosome-inactivating
CC protein (RIP) gelonin, one of the nine RIPs described in AAR63903-R63911.

```
CC   RIPs are key components of cytotoxic therapeutic agents (CTAs), which
CC   include gene fusion products and immunoconjugates. CTAs may be used to
CC   selectively eliminate any cell type to which a RIP component is
CC   targetted, by the specific binding capacity of the second component of
CC   the agent. They can be used in the treatment of diseases where the
CC   elimination of a particular cell type is desired, such as autoimmune
CC   disease, cancer and graft-versus-host disease. (Updated on 25-MAR-2003 to
CC   correct PN field.)
XX
SQ   Sequence 251 AA;

  Query Match             78.7%;  Score 1278;  DB 2;  Length 251;
  Best Local Similarity   99.6%;  Pred. No. 1.2e-113;
  Matches  250;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDC 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
               ||||||||||
Db        241 ALLKFVDKDPK 251


RESULT 15
AAR63917
ID   AAR63917 standard; protein; 251 AA.
XX
AC   AAR63917;
XX
DT   25-MAR-2003  (revised)
DT   27-JUL-1995  (first entry)
XX
DE   Type I RIP gelonin analog Gel(C247).
XX
KW   Type I ribosome-inactivating proteins; RIPs; gelonin;
KW   cytotoxic therapeutic agents; autoimmune disease; cancer;
KW   graft-versus-host disease.
XX
OS   Gelonium multiflorum.
XX
PN   WO9426910-A1.
XX
PD   24-NOV-1994.
XX
PF   12-MAY-1994;   94WO-US005348.
XX
PR   12-MAY-1993;   93US-00064691.
XX
PA   (XOMA ) XOMA CORP.
XX
PI   Better MD,  Carroll SF,  Studnicka GM;
XX
DR   WPI; 1995-006804/01.
XX
PT   Polynucleotide(s) encoding type I ribosome-inactivating proteins - which
PT   are suitable for use as components of cytotoxic therapeutic agents.
XX
PS   Example 3; Page 182-183; 221pp; English.
XX
CC   AAR63912-R63924 are analogs of AAR63903 type I ribosome-inactivating
CC   protein (RIP) gelonin, one of the nine RIPs described in AAR63903-R63911.
CC   RIPs are key components of cytotoxic therapeutic agents (CTAs), which
CC   include gene fusion products and immunoconjugates. CTAs may be used to
CC   selectively eliminate any cell type to which a RIP component is
CC   targetted, by the specific binding capacity of the second component of
CC   the agent. They can be used in the treatment of diseases where the
CC   elimination of a particular cell type is desired, such as autoimmune
CC   disease, cancer and graft-versus-host disease. (Updated on 25-MAR-2003 to
CC   correct PN field.)
XX
SQ   Sequence 251 AA;

  Query Match             78.7%;  Score 1278;  DB 2;  Length 251;
  Best Local Similarity   99.6%;  Pred. No. 1.2e-113;
  Matches  250;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
               |||||| ||||
Db        241 ALLKFVCKDPK 251


Search completed: July 27, 2005, 17:29:59
Job time : 168 secs
```

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: July 27, 2005, 17:11:45 ; Search time 158 Seconds
(without alignments)
777.985 Million cell updates/sec

Title: US-10-074-596-1
Perfect score: 1623
Sequence: 1 MKGNMKVYWIKIAVATWFCC.....KTSLAAELIIQNYESLVGFD 316

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1741741 seqs, 388992284 residues

Total number of hits satisfying chosen parameters: 1741741

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA:*
1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
4: /cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*
5: /cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
6: /cgn2_6/ptodata/1/pubpaa/PCTUS_PUBCOMB.pep:*
7: /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*
8: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
9: /cgn2_6/ptodata/1/pubpaa/US09A_PUBCOMB.pep:*
10: /cgn2_6/ptodata/1/pubpaa/US09B_PUBCOMB.pep:*
11: /cgn2_6/ptodata/1/pubpaa/US09C_PUBCOMB.pep:*
12: /cgn2_6/ptodata/1/pubpaa/US09_NEW_PUB.pep:*
13: /cgn2_6/ptodata/1/pubpaa/US10A_PUBCOMB.pep:*
14: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*
15: /cgn2_6/ptodata/1/pubpaa/US10C_PUBCOMB.pep:*
16: /cgn2_6/ptodata/1/pubpaa/US10D_PUBCOMB.pep:*
17: /cgn2_6/ptodata/1/pubpaa/US10E_PUBCOMB.pep:*
18: /cgn2_6/ptodata/1/pubpaa/US10_NEW_PUB.pep:*
19: /cgn2_6/ptodata/1/pubpaa/US11A_PUBCOMB.pep:*
20: /cgn2_6/ptodata/1/pubpaa/US11_NEW_PUB.pep:*
21: /cgn2_6/ptodata/1/pubpaa/US60_NEW_PUB.pep:*
22: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	1623	100.0	316	14	US-10-074-596-1	Sequence 1, Appli
2	1287	79.3	251	9	US-09-765-527-247	Sequence 247, App
3	1287	79.3	251	14	US-10-127-890-2	Sequence 2, Appli
4	1287	79.3	251	17	US-10-717-243-2	Sequence 2, Appli
5	1287	79.3	507	14	US-10-074-596-11	Sequence 11, Appl
6	1286	79.2	293	9	US-09-765-527-259	Sequence 259, App
7	1286	79.2	309	9	US-09-765-527-253	Sequence 253, App
8	1286	79.2	332	9	US-09-765-527-251	Sequence 251, App
9	1282	79.0	251	14	US-10-127-890-108	Sequence 108, App
10	1282	79.0	251	17	US-10-717-243-108	Sequence 108, App
11	1279	78.8	251	14	US-10-127-890-103	Sequence 103, App
12	1279	78.8	251	14	US-10-127-890-104	Sequence 104, App
13	1279	78.8	251	14	US-10-127-890-105	Sequence 105, App
14	1279	78.8	251	14	US-10-127-890-106	Sequence 106, App
15	1279	78.8	251	14	US-10-127-890-109	Sequence 109, App
16	1279	78.8	251	17	US-10-717-243-103	Sequence 103, App
17	1279	78.8	251	17	US-10-717-243-104	Sequence 104, App
18	1279	78.8	251	17	US-10-717-243-105	Sequence 105, App
19	1279	78.8	251	17	US-10-717-243-106	Sequence 106, App
20	1279	78.8	251	17	US-10-717-243-109	Sequence 109, App
21	1278	78.7	251	14	US-10-127-890-99	Sequence 99, Appl
22	1278	78.7	251	14	US-10-127-890-100	Sequence 100, App
23	1278	78.7	251	14	US-10-127-890-102	Sequence 102, App
24	1278	78.7	251	14	US-10-127-890-107	Sequence 107, App
25	1278	78.7	251	17	US-10-717-243-99	Sequence 99, Appl
26	1278	78.7	251	17	US-10-717-243-100	Sequence 100, App
27	1278	78.7	251	17	US-10-717-243-102	Sequence 102, App
28	1278	78.7	251	17	US-10-717-243-107	Sequence 107, App
29	1269	78.2	251	14	US-10-127-890-101	Sequence 101, App
30	1269	78.2	251	17	US-10-717-243-101	Sequence 101, App
31	1261	77.7	251	14	US-10-127-890-110	Sequence 110, App
32	1261	77.7	251	17	US-10-717-243-110	Sequence 110, App
33	1252	77.1	251	14	US-10-127-890-111	Sequence 111, App
34	1252	77.1	251	17	US-10-717-243-111	Sequence 111, App
35	386	23.8	576	14	US-10-083-336A-1	Sequence 1, Appli
36	346	21.3	263	14	US-10-127-890-4	Sequence 4, Appli
37	346	21.3	263	17	US-10-717-243-4	Sequence 4, Appli
38	346	21.3	267	14	US-10-282-935-1	Sequence 1, Appli
39	346	21.3	267	14	US-10-127-890-1	Sequence 1, Appli
40	346	21.3	267	15	US-10-440-796-1	Sequence 1, Appli
41	346	21.3	267	17	US-10-717-243-1	Sequence 1, Appli
42	334	20.6	312	16	US-10-467-009-2	Sequence 2, Appli
43	330	20.3	314	9	US-09-978-274A-2	Sequence 2, Appli
44	322	19.8	289	14	US-10-280-679B-4	Sequence 4, Appli
45	322	19.8	289	15	US-10-280-725B-4	Sequence 4, Appli

ALIGNMENTS

RESULT 1
US-10-074-596-1
; Sequence 1, Application US/10074596
; Publication No. US20030176331A1
; GENERAL INFORMATION:
; APPLICANT: ROSENBLUM, MICHAEL G.
; APPLICANT: CHEUNG, LAWRENCE
; TITLE OF INVENTION: MODIFIED PROTEINS, DESIGNER TOXINS, AND METHODS OF
; TITLE OF INVENTION: MAKING THEEOF
; FILE REFERENCE: CLFR:007US
; CURRENT APPLICATION NUMBER: US/10/074,596
; CURRENT FILING DATE: 2002-02-12
; PRIOR APPLICATION NUMBER: 60/268,402
; PRIOR FILING DATE: 2001-02-12
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 1
; LENGTH: 316
; TYPE: PRT
; ORGANISM: Gelonium multiflorum
US-10-074-596-1

Query Match 100.0%; Score 1623; DB 14; Length 316;
Best Local Similarity 100.0%; Pred. No. 5e-144;
Matches 316; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 MKGNMKVYWIKIAVATWFCCTTIVLGSTARIFSLPTNDEEETSKTLGLDTVSFSTKGATY 60
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MKGNMKVYWIKIAVATWFCCTTIVLGSTARIFSLPTNDEEETSKTLGLDTVSFSTKGATY 60

Qy         61 ITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDNGQLAEIAIDVTSVY 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDNGQLAEIAIDVTSVY 120
```

```
Qy        121 VVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEKAYRETTDLGIEPLR 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 VVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEKAYRETTDLGIEPLR 180

Qy        181 IGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNNFQQRIRPANNTISL 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 IGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNNFQQRIRPANNTISL 240

Qy        241 ENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKIALLKFVDKDPKTSL 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 ENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKIALLKFVDKDPKTSL 300

Qy        301 AAELIIQNYESLVGFD 316
              ||||||||||||||||
Db        301 AAELIIQNYESLVGFD 316
```

```
RESULT 2
US-09-765-527-247
; Sequence 247, Application US/09765527
; Patent No. US20020006638A1
;   GENERAL INFORMATION:
;        APPLICANT: Better, Marc D.
;        TITLE OF INVENTION: Methods for Recombinant Microbial Production of
;                            Fusion Proteins and BPI-Derived Peptides
;        NUMBER OF SEQUENCES: 265
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Borun
;             STREET: 6300 Sears Tower, 233 South Wacker Drive
;             CITY: Chicago
;             STATE: Illinois
;             COUNTRY: United States of America
;             ZIP: 60606-6402
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: PatentIn Release #1.0, Version #1.25
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/09/765,527
;             FILING DATE: 18-Jan-2001
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: 08/621,803
;             FILING DATE: <Unknown>
;        ATTORNEY/AGENT INFORMATION:
;             NAME: Borun, Michael F.
;             REGISTRATION NUMBER: 25,447
;             REFERENCE/DOCKET NUMBER: 27129/33199
;        TELECOMMUNICATION INFORMATION:
;             TELEPHONE: 312/474-6300
;             TELEFAX: 312/474-0448
;             TELEX: 25-3856
;   INFORMATION FOR SEQ ID NO: 247:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 251 amino acids
;             TYPE: amino acid
;             TOPOLOGY: linear
;        MOLECULE TYPE: protein
;        SEQUENCE DESCRIPTION: SEQ ID NO: 247:
US-09-765-527-247

  Query Match             79.3%;  Score 1287;  DB 9;  Length 251;
  Best Local Similarity   100.0%;  Pred. No. 1.5e-112;
  Matches  251;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120
```

```
Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||||||||
Db        241 ALLKFVDKDPK 251
```

```
RESULT 3
US-10-127-890-2
; Sequence 2, Application US/10127890
; Publication No. US20030166196A1
;   GENERAL INFORMATION:
;        APPLICANT: Better, Marc D.
;                   Carroll, Stephen F.
;                   Studnika, Gary M.
;        TITLE OF INVENTION: Immunotoxins Comprising Ribosome-Inactivating
;                            Proteins
;        NUMBER OF SEQUENCES: 173
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: McAndrews, Held & Malloy, Ltd.
;             STREET: 500 West Madison Street, 34th floor
;             CITY: Chicago
;             STATE: Illinois
;             COUNTRY: USA
;             ZIP: 60661
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: PatentIn Release #1.0, Version #1.25
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/10/127,890
;             FILING DATE: 23-Apr-2002
;             CLASSIFICATION: <Unknown>
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: US/08/646,360
;             FILING DATE: 13-MAY-1996
;             APPLICATION NUMBER: PCT/US94/05348
;             FILING DATE: 12-MAY-1994
;             APPLICATION NUMBER: US 08/064,691
;             FILING DATE: 12-MAY-1993
;             APPLICATION NUMBER: US 07/988,430
;             FILING DATE: 09-DEC-1992
;             APPLICATION NUMBER: US 07/901,707
;             FILING DATE: 19-JUN-1992
;             APPLICATION NUMBER: US 07/787,567
;             FILING DATE: 04-NOV-1991
;        ATTORNEY/AGENT INFORMATION:
;             NAME: McNicholas, Janet M.
;             REGISTRATION NUMBER: 32,918
;             REFERENCE/DOCKET NUMBER: 200-70.P4
;        TELECOMMUNICATION INFORMATION:
;             TELEPHONE: 312/707-8889
;             TELEFAX: 312/707-9155
;             TELEX: 650 388-1248
;   INFORMATION FOR SEQ ID NO: 2:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 251 amino acids
;             TYPE: amino acid
;             TOPOLOGY: linear
;        MOLECULE TYPE: protein
;        SEQUENCE DESCRIPTION: SEQ ID NO: 2:
US-10-127-890-2

  Query Match             79.3%;  Score 1287;  DB 14;  Length 251;
  Best Local Similarity   100.0%;  Pred. No. 1.5e-112;
  Matches  251;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;
```

```
Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||||||| 
Db        241 ALLKFVDKDPK 251


RESULT 4
US-10-717-243-2
; Sequence 2, Application US/10717243
; Publication No. US20050054835A1
;  GENERAL INFORMATION:
;       APPLICANT: Better, Marc D.
;                  Carroll, Stephen F.
;                  Studnika, Gary M.
;       TITLE OF INVENTION: Immunotoxins Comprising Ribosome-Inactivating
;                           Proteins
;       NUMBER OF SEQUENCES: 169
;       CORRESPONDENCE ADDRESS:
;            ADDRESSEE: McAndrews, Held & Malloy, Ltd.
;            STREET: 500 West Madison Street, 34th floor
;            CITY: Chicago
;            STATE: Illinois
;            COUNTRY: USA
;            ZIP: 60661
;       COMPUTER READABLE FORM:
;            MEDIUM TYPE: Floppy disk
;            COMPUTER: IBM PC compatible
;            OPERATING SYSTEM: PC-DOS/MS-DOS
;            SOFTWARE: PatentIn Release #1.0, Version #1.25
;       CURRENT APPLICATION DATA:
;            APPLICATION NUMBER: US/10/717,243
;            FILING DATE: 18-Nov-2003
;            CLASSIFICATION: 530
;       PRIOR APPLICATION DATA:
;            APPLICATION NUMBER: US/08/839,765
;            FILING DATE: 15-APR-1997
;            APPLICATION NUMBER: US 08/425,336
;            FILING DATE: 18-APR-1995
;            APPLICATION NUMBER: US 08/064,691
;            FILING DATE: 12-MAY-1993
;            APPLICATION NUMBER: US 07/988,430
;            FILING DATE: 09-DEC-1992
;            APPLICATION NUMBER: US 07/901,707
;            FILING DATE: 19-JUN-1992
;            APPLICATION NUMBER: US 07/787,567
;            FILING DATE: 04-NOV-1991
;       ATTORNEY/AGENT INFORMATION:
;            NAME: McNicholas, Janet M.
;            REGISTRATION NUMBER: 32,918
;            REFERENCE/DOCKET NUMBER: 11022US09/200-70.P3.C3
;       TELECOMMUNICATION INFORMATION:
;            TELEPHONE: 312/707-8889
;            TELEFAX: 312/707-9155
;            TELEX: 650 388-1248
;  INFORMATION FOR SEQ ID NO: 2:
;       SEQUENCE CHARACTERISTICS:
;            LENGTH: 251 amino acids
;            TYPE: amino acid
;            TOPOLOGY: linear
;          MOLECULE TYPE: protein
;          SEQUENCE DESCRIPTION: SEQ ID NO: 2:
US-10-717-243-2

  Query Match             79.3%;  Score 1287;  DB 17;  Length 251;
  Best Local Similarity   100.0%;  Pred. No. 1.5e-112;
  Matches  251;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||||||| 
Db        241 ALLKFVDKDPK 251


RESULT 5
US-10-074-596-11
; Sequence 11, Application US/10074596
; Publication No. US20030176331A1
; GENERAL INFORMATION:
;  APPLICANT: ROSENBLUM, MICHAEL G.
;  APPLICANT:  CHEUNG, LAWRENCE
;  TITLE OF INVENTION: MODIFIED PROTEINS, DESIGNER TOXINS, AND METHODS OF
;  TITLE OF INVENTION:  MAKING THEEOF
;  FILE REFERENCE: CLFR:007US
;  CURRENT APPLICATION NUMBER: US/10/074,596
;  CURRENT FILING DATE:  2002-02-12
;  PRIOR APPLICATION NUMBER: 60/268,402
;  PRIOR FILING DATE: 2001-02-12
;  NUMBER OF SEQ ID NOS: 11
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 11
;  LENGTH: 507
;  TYPE: PRT
;  ORGANISM: Artificial Sequence
;  FEATURE:
;  OTHER INFORMATION: Description of Artificial Sequence:  Synthetic
US-10-074-596-11

  Query Match             79.3%;  Score 1287;  DB 14;  Length 507;
  Best Local Similarity   100.0%;  Pred. No. 4.1e-112;
  Matches  251;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        257 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 316

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        317 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 376

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        377 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 436

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
```

```
Db        437 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 496

Qy        287 ALLKFVDKDPK 297
              ||||||||||
Db        497 ALLKFVDKDPK 507


RESULT 6
US-09-765-527-259
; Sequence 259, Application US/09765527
; Patent No. US20020006638A1
;   GENERAL INFORMATION:
;        APPLICANT: Better, Marc D.
;        TITLE OF INVENTION: Methods for Recombinant Microbial Production of
;                            Fusion Proteins and BPI-Derived Peptides
;        NUMBER OF SEQUENCES: 265
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Borun
;             STREET: 6300 Sears Tower, 233 South Wacker Drive
;             CITY: Chicago
;             STATE: Illinois
;             COUNTRY: United States of America
;             ZIP: 60606-6402
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: PatentIn Release #1.0, Version #1.25
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/09/765,527
;             FILING DATE: 18-Jan-2001
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: 08/621,803
;             FILING DATE: <Unknown>
;        ATTORNEY/AGENT INFORMATION:
;             NAME: Borun, Michael F.
;             REGISTRATION NUMBER: 25,447
;             REFERENCE/DOCKET NUMBER: 27129/33199
;        TELECOMMUNICATION INFORMATION:
;             TELEPHONE: 312/474-6300
;             TELEFAX: 312/474-0448
;             TELEX: 25-3856
;   INFORMATION FOR SEQ ID NO: 259:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 293 amino acids
;             TYPE: amino acid
;             TOPOLOGY: linear
;        MOLECULE TYPE: protein
;        SEQUENCE DESCRIPTION: SEQ ID NO: 259:
US-09-765-527-259

  Query Match             79.2%;  Score 1286;  DB 9;  Length 293;
  Best Local Similarity   98.8%;  Pred. No. 2.4e-112;
  Matches  250;  Conservative    3;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         23 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 82

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||:||||||||
Db         83 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGTYPSLEGEK 142

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        143 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 202

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        203 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 262

Qy        287 ALLKFVDKDPKTS 299
              ||||||||||::
Db        263 ALLKFVDKDPKSA 275


RESULT 7
US-09-765-527-253
; Sequence 253, Application US/09765527
; Patent No. US20020006638A1
;   GENERAL INFORMATION:
;        APPLICANT: Better, Marc D.
;        TITLE OF INVENTION: Methods for Recombinant Microbial Production of
;                            Fusion Proteins and BPI-Derived Peptides
;        NUMBER OF SEQUENCES: 265
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Borun
;             STREET: 6300 Sears Tower, 233 South Wacker Drive
;             CITY: Chicago
;             STATE: Illinois
;             COUNTRY: United States of America
;             ZIP: 60606-6402
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: PatentIn Release #1.0, Version #1.25
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/09/765,527
;             FILING DATE: 18-Jan-2001
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: 08/621,803
;             FILING DATE: <Unknown>
;        ATTORNEY/AGENT INFORMATION:
;             NAME: Borun, Michael F.
;             REGISTRATION NUMBER: 25,447
;             REFERENCE/DOCKET NUMBER: 27129/33199
;        TELECOMMUNICATION INFORMATION:
;             TELEPHONE: 312/474-6300
;             TELEFAX: 312/474-0448
;             TELEX: 25-3856
;   INFORMATION FOR SEQ ID NO: 253:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 309 amino acids
;             TYPE: amino acid
;             TOPOLOGY: linear
;        MOLECULE TYPE: protein
;        SEQUENCE DESCRIPTION: SEQ ID NO: 253:
US-09-765-527-253

  Query Match             79.2%;  Score 1286;  DB 9;  Length 309;
  Best Local Similarity   98.8%;  Pred. No. 2.6e-112;
  Matches  250;  Conservative    3;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         23 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 82

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||:||||||||
Db         83 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGTYPSLEGEK 142

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        143 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 202

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        203 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 262

Qy        287 ALLKFVDKDPKTS 299
              ||||||||||::
Db        263 ALLKFVDKDPKSA 275


RESULT 8
```

```
US-09-765-527-251
; Sequence 251, Application US/09765527
; Patent No. US20020006638A1
;   GENERAL INFORMATION:
;        APPLICANT: Better, Marc D.
;        TITLE OF INVENTION: Methods for Recombinant Microbial Production of
;                            Fusion Proteins and BPI-Derived Peptides
;        NUMBER OF SEQUENCES: 265
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: Marshall, O'Toole, Gerstein, Murray & Borun
;             STREET: 6300 Sears Tower, 233 South Wacker Drive
;             CITY: Chicago
;             STATE: Illinois
;             COUNTRY: United States of America
;             ZIP: 60606-6402
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: PatentIn Release #1.0, Version #1.25
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/09/765,527
;             FILING DATE: 18-Jan-2001
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: 08/621,803
;             FILING DATE: <Unknown>
;        ATTORNEY/AGENT INFORMATION:
;             NAME: Borun, Michael F.
;             REGISTRATION NUMBER: 25,447
;             REFERENCE/DOCKET NUMBER: 27129/33199
;        TELECOMMUNICATION INFORMATION:
;             TELEPHONE: 312/474-6300
;             TELEFAX: 312/474-0448
;             TELEX: 25-3856
;   INFORMATION FOR SEQ ID NO: 251:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 332 amino acids
;             TYPE: amino acid
;             TOPOLOGY: linear
;        MOLECULE TYPE: protein
;        SEQUENCE DESCRIPTION: SEQ ID NO: 251:
US-09-765-527-251

  Query Match             79.2%;  Score 1286;  DB 9;  Length 332;
  Best Local Similarity   98.8%;  Pred. No. 2.8e-112;
  Matches  250;  Conservative    3;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         23 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 82

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||:|||||||||||
Db         83 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGTYPSLEGEK 142

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        143 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 202

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        203 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 262

Qy        287 ALLKFVDKDPKTS 299
              ||||||||||::
Db        263 ALLKFVDKDPKSA 275


RESULT 9
US-10-127-890-108
; Sequence 108, Application US/10127890
; Publication No. US20030166196A1
;   GENERAL INFORMATION:
;        APPLICANT: Better, Marc D.
;                   Carroll, Stephen F.
;                   Studnika, Gary M.
;        TITLE OF INVENTION: Immunotoxins Comprising Ribosome-Inactivating
;                            Proteins
;        NUMBER OF SEQUENCES: 173
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: McAndrews, Held & Malloy, Ltd.
;             STREET: 500 West Madison Street, 34th floor
;             CITY: Chicago
;             STATE: Illinois
;             COUNTRY: USA
;             ZIP: 60661
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: PatentIn Release #1.0, Version #1.25
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/10/127,890
;             FILING DATE: 23-Apr-2002
;             CLASSIFICATION: <Unknown>
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: US/08/646,360
;             FILING DATE: 13-MAY-1996
;             APPLICATION NUMBER: PCT/US94/05348
;             FILING DATE: 12-MAY-1994
;             APPLICATION NUMBER: US 08/064,691
;             FILING DATE: 12-MAY-1993
;             APPLICATION NUMBER: US 07/988,430
;             FILING DATE: 09-DEC-1992
;             APPLICATION NUMBER: US 07/901,707
;             FILING DATE: 19-JUN-1992
;             APPLICATION NUMBER: US 07/787,567
;             FILING DATE: 04-NOV-1991
;        ATTORNEY/AGENT INFORMATION:
;             NAME: McNicholas, Janet M.
;             REGISTRATION NUMBER: 32,918
;             REFERENCE/DOCKET NUMBER: 200-70.P4
;        TELECOMMUNICATION INFORMATION:
;             TELEPHONE: 312/707-8889
;             TELEFAX: 312/707-9155
;             TELEX: 650 388-1248
;   INFORMATION FOR SEQ ID NO: 108:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 251 amino acids
;             TYPE: amino acid
;             TOPOLOGY: linear
;        MOLECULE TYPE: protein
;        SEQUENCE DESCRIPTION: SEQ ID NO: 108:
US-10-127-890-108

  Query Match             79.0%;  Score 1282;  DB 14;  Length 251;
  Best Local Similarity   99.6%;  Pred. No. 4.5e-112;
  Matches  250;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              |||||||||||||||||||||||||||||||||||||||| ||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTCKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
```

```
                ||||||||||
Db        241 ALLKFVDKDPK 251


RESULT 10
US-10-717-243-108
; Sequence 108, Application US/10717243
; Publication No. US20050054835A1
;   GENERAL INFORMATION:
;        APPLICANT: Better, Marc D.
;                   Carroll, Stephen F.
;                   Studnika, Gary M.
;        TITLE OF INVENTION: Immunotoxins Comprising Ribosome-Inactivating
;                            Proteins
;        NUMBER OF SEQUENCES: 169
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: McAndrews, Held & Malloy, Ltd.
;             STREET: 500 West Madison Street, 34th floor
;             CITY: Chicago
;             STATE: Illinois
;             COUNTRY: USA
;             ZIP: 60661
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: PatentIn Release #1.0, Version #1.25
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/10/717,243
;             FILING DATE: 18-Nov-2003
;             CLASSIFICATION: 530
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: US/08/839,765
;             FILING DATE: 15-APR-1997
;             APPLICATION NUMBER: US 08/425,336
;             FILING DATE: 18-APR-1995
;             APPLICATION NUMBER: US 08/064,691
;             FILING DATE: 12-MAY-1993
;             APPLICATION NUMBER: US 07/988,430
;             FILING DATE: 09-DEC-1992
;             APPLICATION NUMBER: US 07/901,707
;             FILING DATE: 19-JUN-1992
;             APPLICATION NUMBER: US 07/787,567
;             FILING DATE: 04-NOV-1991
;        ATTORNEY/AGENT INFORMATION:
;             NAME: McNicholas, Janet M.
;             REGISTRATION NUMBER: 32,918
;             REFERENCE/DOCKET NUMBER: 11022US09/200-70.P3.C3
;        TELECOMMUNICATION INFORMATION:
;             TELEPHONE: 312/707-8889
;             TELEFAX: 312/707-9155
;             TELEX: 650 388-1248
;   INFORMATION FOR SEQ ID NO: 108:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 251 amino acids
;             TYPE: amino acid
;             TOPOLOGY: linear
;        MOLECULE TYPE: protein
;        SEQUENCE DESCRIPTION: SEQ ID NO: 108:
US-10-717-243-108

  Query Match             79.0%;  Score 1282;  DB 17;  Length 251;
  Best Local Similarity   99.6%;  Pred. No. 4.5e-112;
  Matches  250;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              |||||||||||||||||||||||||||||||||||| ||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTCKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||||||
Db        241 ALLKFVDKDPK 251


RESULT 11
US-10-127-890-103
; Sequence 103, Application US/10127890
; Publication No. US20030166196A1
;   GENERAL INFORMATION:
;        APPLICANT: Better, Marc D.
;                   Carroll, Stephen F.
;                   Studnika, Gary M.
;        TITLE OF INVENTION: Immunotoxins Comprising Ribosome-Inactivating
;                            Proteins
;        NUMBER OF SEQUENCES: 173
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: McAndrews, Held & Malloy, Ltd.
;             STREET: 500 West Madison Street, 34th floor
;             CITY: Chicago
;             STATE: Illinois
;             COUNTRY: USA
;             ZIP: 60661
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: PatentIn Release #1.0, Version #1.25
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/10/127,890
;             FILING DATE: 23-Apr-2002
;             CLASSIFICATION: <Unknown>
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: US/08/646,360
;             FILING DATE: 13-MAY-1996
;             APPLICATION NUMBER: PCT/US94/05348
;             FILING DATE: 12-MAY-1994
;             APPLICATION NUMBER: US 08/064,691
;             FILING DATE: 12-MAY-1993
;             APPLICATION NUMBER: US 07/988,430
;             FILING DATE: 09-DEC-1992
;             APPLICATION NUMBER: US 07/901,707
;             FILING DATE: 19-JUN-1992
;             APPLICATION NUMBER: US 07/787,567
;             FILING DATE: 04-NOV-1991
;        ATTORNEY/AGENT INFORMATION:
;             NAME: McNicholas, Janet M.
;             REGISTRATION NUMBER: 32,918
;             REFERENCE/DOCKET NUMBER: 200-70.P4
;        TELECOMMUNICATION INFORMATION:
;             TELEPHONE: 312/707-8889
;             TELEFAX: 312/707-9155
;             TELEX: 650 388-1248
;   INFORMATION FOR SEQ ID NO: 103:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 251 amino acids
;             TYPE: amino acid
;             TOPOLOGY: linear
;        MOLECULE TYPE: protein
;        SEQUENCE DESCRIPTION: SEQ ID NO: 103:
US-10-127-890-103

  Query Match             78.8%;  Score 1279;  DB 14;  Length 251;
  Best Local Similarity   99.6%;  Pred. No. 8.7e-112;
  Matches  250;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;
```

```
Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||| |||
Db        241 ALLKFVDCDPK 251


RESULT 12
US-10-127-890-104
; Sequence 104, Application US/10127890
; Publication No. US20030166196A1
;   GENERAL INFORMATION:
;        APPLICANT: Better, Marc D.
;                   Carroll, Stephen F.
;                   Studnika, Gary M.
;        TITLE OF INVENTION: Immunotoxins Comprising Ribosome-Inactivating
;                            Proteins
;        NUMBER OF SEQUENCES: 173
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: McAndrews, Held & Malloy, Ltd.
;             STREET: 500 West Madison Street, 34th floor
;             CITY: Chicago
;             STATE: Illinois
;             COUNTRY: USA
;             ZIP: 60661
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: PatentIn Release #1.0, Version #1.25
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/10/127,890
;             FILING DATE: 23-Apr-2002
;             CLASSIFICATION: <Unknown>
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: US/08/646,360
;             FILING DATE: 13-MAY-1996
;             APPLICATION NUMBER: PCT/US94/05348
;             FILING DATE: 12-MAY-1994
;             APPLICATION NUMBER: US 08/064,691
;             FILING DATE: 12-MAY-1993
;             APPLICATION NUMBER: US 07/988,430
;             FILING DATE: 09-DEC-1992
;             APPLICATION NUMBER: US 07/901,707
;             FILING DATE: 19-JUN-1992
;             APPLICATION NUMBER: US 07/787,567
;             FILING DATE: 04-NOV-1991
;        ATTORNEY/AGENT INFORMATION:
;             NAME: McNicholas, Janet M.
;             REGISTRATION NUMBER: 32,918
;             REFERENCE/DOCKET NUMBER: 200-70.P4
;        TELECOMMUNICATION INFORMATION:
;             TELEPHONE: 312/707-8889
;             TELEFAX: 312/707-9155
;             TELEX: 650 388-1248
;   INFORMATION FOR SEQ ID NO: 104:
;        SEQUENCE CHARACTERISTICS:
;             LENGTH: 251 amino acids
;             TYPE: amino acid
;             TOPOLOGY: linear
;          MOLECULE TYPE: protein
;          SEQUENCE DESCRIPTION: SEQ ID NO: 104:
US-10-127-890-104

  Query Match             78.8%;  Score 1279;  DB 14;  Length 251;
  Best Local Similarity   99.6%;  Pred. No. 8.7e-112;
  Matches  250;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPCI 240

Qy        287 ALLKFVDKDPK 297
              |||||||||||
Db        241 ALLKFVDKDPK 251


RESULT 13
US-10-127-890-105
; Sequence 105, Application US/10127890
; Publication No. US20030166196A1
;   GENERAL INFORMATION:
;        APPLICANT: Better, Marc D.
;                   Carroll, Stephen F.
;                   Studnika, Gary M.
;        TITLE OF INVENTION: Immunotoxins Comprising Ribosome-Inactivating
;                            Proteins
;        NUMBER OF SEQUENCES: 173
;        CORRESPONDENCE ADDRESS:
;             ADDRESSEE: McAndrews, Held & Malloy, Ltd.
;             STREET: 500 West Madison Street, 34th floor
;             CITY: Chicago
;             STATE: Illinois
;             COUNTRY: USA
;             ZIP: 60661
;        COMPUTER READABLE FORM:
;             MEDIUM TYPE: Floppy disk
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: PatentIn Release #1.0, Version #1.25
;        CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/10/127,890
;             FILING DATE: 23-Apr-2002
;             CLASSIFICATION: <Unknown>
;        PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: US/08/646,360
;             FILING DATE: 13-MAY-1996
;             APPLICATION NUMBER: PCT/US94/05348
;             FILING DATE: 12-MAY-1994
;             APPLICATION NUMBER: US 08/064,691
;             FILING DATE: 12-MAY-1993
;             APPLICATION NUMBER: US 07/988,430
;             FILING DATE: 09-DEC-1992
;             APPLICATION NUMBER: US 07/901,707
;             FILING DATE: 19-JUN-1992
;             APPLICATION NUMBER: US 07/787,567
;             FILING DATE: 04-NOV-1991
;        ATTORNEY/AGENT INFORMATION:
;             NAME: McNicholas, Janet M.
```

```
;            REGISTRATION NUMBER: 32,918
;            REFERENCE/DOCKET NUMBER: 200-70.P4
;       TELECOMMUNICATION INFORMATION:
;            TELEPHONE: 312/707-8889
;            TELEFAX: 312/707-9155
;            TELEX: 650 388-1248
;   INFORMATION FOR SEQ ID NO: 105:
;       SEQUENCE CHARACTERISTICS:
;            LENGTH: 251 amino acids
;            TYPE: amino acid
;            TOPOLOGY: linear
;       MOLECULE TYPE: protein
;       SEQUENCE DESCRIPTION: SEQ ID NO: 105:
US-10-127-890-105

  Query Match             78.8%;  Score 1279;  DB 14;  Length 251;
  Best Local Similarity   99.6%;  Pred. No. 8.7e-112;
  Matches  250;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||| |||||||
Db        241 ALLCFVDKDPK 251


RESULT 14
US-10-127-890-106
; Sequence 106, Application US/10127890
; Publication No. US20030166196A1
;   GENERAL INFORMATION:
;       APPLICANT: Better, Marc D.
;                  Carroll, Stephen F.
;                  Studnika, Gary M.
;       TITLE OF INVENTION: Immunotoxins Comprising Ribosome-Inactivating
;                           Proteins
;       NUMBER OF SEQUENCES: 173
;       CORRESPONDENCE ADDRESS:
;            ADDRESSEE: McAndrews, Held & Malloy, Ltd.
;            STREET: 500 West Madison Street, 34th floor
;            CITY: Chicago
;            STATE: Illinois
;            COUNTRY: USA
;            ZIP: 60661
;       COMPUTER READABLE FORM:
;            MEDIUM TYPE: Floppy disk
;            COMPUTER: IBM PC compatible
;            OPERATING SYSTEM: PC-DOS/MS-DOS
;            SOFTWARE: PatentIn Release #1.0, Version #1.25
;       CURRENT APPLICATION DATA:
;            APPLICATION NUMBER: US/10/127,890
;            FILING DATE: 23-Apr-2002
;            CLASSIFICATION: <Unknown>
;       PRIOR APPLICATION DATA:
;            APPLICATION NUMBER: US/08/646,360
;            FILING DATE: 13-MAY-1996
;            APPLICATION NUMBER: PCT/US94/05348
;            FILING DATE: 12-MAY-1994
;            APPLICATION NUMBER: US 08/064,691
;            FILING DATE: 12-MAY-1993
;            APPLICATION NUMBER: US 07/988,430
;            FILING DATE: 09-DEC-1992
;            APPLICATION NUMBER: US 07/901,707
;            FILING DATE: 19-JUN-1992
;            APPLICATION NUMBER: US 07/787,567
;            FILING DATE: 04-NOV-1991
;       ATTORNEY/AGENT INFORMATION:
;            NAME: McNicholas, Janet M.
;            REGISTRATION NUMBER: 32,918
;            REFERENCE/DOCKET NUMBER: 200-70.P4
;       TELECOMMUNICATION INFORMATION:
;            TELEPHONE: 312/707-8889
;            TELEFAX: 312/707-9155
;            TELEX: 650 388-1248
;   INFORMATION FOR SEQ ID NO: 106:
;       SEQUENCE CHARACTERISTICS:
;            LENGTH: 251 amino acids
;            TYPE: amino acid
;            TOPOLOGY: linear
;       MOLECULE TYPE: protein
;       SEQUENCE DESCRIPTION: SEQ ID NO: 106:
US-10-127-890-106

  Query Match             78.8%;  Score 1279;  DB 14;  Length 251;
  Best Local Similarity   99.6%;  Pred. No. 8.7e-112;
  Matches  250;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              ||||||||| |||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GLDTVSFSTCGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy        167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy        227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy        287 ALLKFVDKDPK 297
              ||||||||||| 
Db        241 ALLKFVDKDPK 251


RESULT 15
US-10-127-890-109
; Sequence 109, Application US/10127890
; Publication No. US20030166196A1
;   GENERAL INFORMATION:
;       APPLICANT: Better, Marc D.
;                  Carroll, Stephen F.
;                  Studnika, Gary M.
;       TITLE OF INVENTION: Immunotoxins Comprising Ribosome-Inactivating
;                           Proteins
;       NUMBER OF SEQUENCES: 173
;       CORRESPONDENCE ADDRESS:
;            ADDRESSEE: McAndrews, Held & Malloy, Ltd.
;            STREET: 500 West Madison Street, 34th floor
;            CITY: Chicago
;            STATE: Illinois
;            COUNTRY: USA
;            ZIP: 60661
;       COMPUTER READABLE FORM:
;            MEDIUM TYPE: Floppy disk
;            COMPUTER: IBM PC compatible
;            OPERATING SYSTEM: PC-DOS/MS-DOS
;            SOFTWARE: PatentIn Release #1.0, Version #1.25
;       CURRENT APPLICATION DATA:
```

; APPLICATION NUMBER: US/10/127,890
; FILING DATE: 23-Apr-2002
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/08/646,360
; FILING DATE: 13-MAY-1996
; APPLICATION NUMBER: PCT/US94/05348
; FILING DATE: 12-MAY-1994
; APPLICATION NUMBER: US 08/064,691
; FILING DATE: 12-MAY-1993
; APPLICATION NUMBER: US 07/988,430
; FILING DATE: 09-DEC-1992
; APPLICATION NUMBER: US 07/901,707
; FILING DATE: 19-JUN-1992
; APPLICATION NUMBER: US 07/787,567
; FILING DATE: 04-NOV-1991
; ATTORNEY/AGENT INFORMATION:
; NAME: McNicholas, Janet M.
; REGISTRATION NUMBER: 32,918
; REFERENCE/DOCKET NUMBER: 200-70.P4
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 312/707-8889
; TELEFAX: 312/707-9155
; TELEX: 650 388-1248
; INFORMATION FOR SEQ ID NO: 109:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 251 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 109:
US-10-127-890-109

Query Match 78.8%; Score 1279; DB 14; Length 251;
Best Local Similarity 99.6%; Pred. No. 8.7e-112;
Matches 250; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```
Qy          47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db           1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 60

Qy         107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 166
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          61 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEK 120

Qy         167 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 226
               ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         121 AYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNN 180

Qy         227 FQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 286
               ||| ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         181 FQQCIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKI 240

Qy         287 ALLKFVDKDPK 297
               ||||||||||| 
Db         241 ALLKFVDKDPK 251
```

Search completed: July 27, 2005, 17:27:06
Job time : 159 secs

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: July 27, 2005, 17:23:23 ; Search time 41 Seconds
(without alignments)
741.573 Million cell updates/sec

Title: US-10-074-596-1
Perfect score: 1623
Sequence: 1 MKGNMKVYWIKIAVATWFCC.....KTSLAAELIIQNYESLVGFD 316

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_79:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	1623	100.0	316	2	JT0753	rRNA N-glycosidase
2	386	23.8	576	1	RLCSD	ricin D precursor
3	366	22.6	564	1	RLCSAG	agglutinin precurs
4	348.5	21.5	245	2	JC4840	rRNA N-glycosidase
5	347	21.4	286	2	S25560	rRNA N-glycosidase
6	342	21.1	286	2	JC4235	rRNA N-glycosidase
7	337.5	20.8	527	2	S32430	abrin-b precursor
8	334.5	20.6	313	2	S17757	rRNA N-glycosidase
9	333.5	20.5	294	2	S28421	rRNA N-glycosidase
10	329	20.3	251	2	C39761	abrin (clone 7.2)
11	324	20.0	528	1	TZLSA	abrin-a precursor
12	322	19.8	289	1	RLTZT	rRNA N-glycosidase
13	315	19.4	247	2	JU0393	karasurin - Mongol
14	315	19.4	289	2	JC5606	karasurin C - Tric
15	311.5	19.2	261	2	JE0401	antiviral protein
16	311.5	19.2	277	2	S22494	rRNA N-glycosidase
17	310.5	19.1	562	2	S16022	abrin-c precursor
18	310	19.1	247	2	JC5032	karasurin-B - Tric
19	302	18.6	528	2	S32431	abrin-d precursor
20	301.5	18.6	254	2	PD0018	mistletoe lectin I
21	291	17.9	286	1	RLPUGG	rRNA N-glycosidase
22	287.5	17.7	570	2	S62627	agglutinin I precu
23	287	17.7	278	2	S23519	beta-luffin - smoo
24	270	16.6	250	2	JN0108	luffin-b - smooth
25	223	13.7	278	2	A39817	rRNA N-glycosidase
26	219.5	13.5	272	2	JC4811	betavulgin - beet
27	216	13.3	310	2	S46239	ribosome-inactivat
28	200	12.3	292	1	RLQHG2	rRNA N-glycosidase
29	196	12.1	283	2	S05205	rRNA N-glycosidase
30	195	12.0	40	2	S17574	rRNA N-glycosidase
31	194.5	12.0	293	2	S17519	rRNA N-glycosidase
32	182	11.2	253	2	S28542	rRNA N-glycosidase
33	182	11.2	289	2	T12573	rRNA N-glycosidase
34	177	10.9	253	2	S28541	rRNA N-glycosidase
35	177	10.9	253	2	S28539	rRNA N-glycosidase
36	177	10.9	253	2	S29931	rRNA N-glycosidase
37	172	10.6	253	2	A58923	rRNA N-glycosidase
38	150	9.2	236	2	S17932	rRNA N-glycosidase
39	145.5	9.0	1948	2	B69511	N conserved hypoth
40	122	7.5	414	2	H70219	hypothetical prote
41	121	7.5	106	2	B39761	abrin (clone 3.7)
42	114.5	7.1	275	2	S33631	tritin - wheat
43	113.5	7.0	280	1	RLBH	rRNA N-glycosidase
44	109	6.7	1140	2	S73786	hypothetical prote
45	107	6.6	1154	2	T15650	hypothetical prote

ALIGNMENTS

RESULT 1
JT0753
rRNA N-glycosidase (EC 3.2.2.22) precursor - Gelonium multiflorum
N;Alternate names: gelonin; type I ribosome-inactivating protein
C;Species: Gelonium multiflorum
C;Date: 30-Sep-1993 #sequence_revision 20-Aug-1994 #text_change 09-Jul-2004
C;Accession: JT0753; S16489
R;Nolan, P.A.; Garrison, D.A.; Better, M.
Gene 134, 223-227, 1993
A;Title: Cloning and expression of a gene encoding gelonin, a ribosome-inactivating pro
A;Reference number: JT0753; MUID:94085781; PMID:7916721
A;Accession: JT0753
A;Molecule type: mRNA
A;Residues: 1-316 <NOL>
A;Cross-references: UNIPROT:P33186; GB:L12243; NID:g388633; PIDN:AAA16312.1; PID:g38863
R;Montecucchi, P.C.; Lazzarini, A.M.; Barbieri, L.; Stirpe, F.; Soria, M.; Lappi, D.
Int. J. Pept. Protein Res. 33, 263-267, 1989
A;Title: N-terminal sequence of some ribosome-inactivating proteins.
A;Reference number: S16331; MUID:89326691; PMID:2753596
A;Accession: S16489
A;Molecule type: protein
A;Residues: 47-89,'K',91-92,'D' <MON>
C;Function:
A;Description: hydrolyzes the N-glycosidic bond of a specific adenosine in 28S rRNA the
C;Superfamily: rRNA N-glycosidase; rRNA N-glycosidase homology
C;Keywords: glycosidase; hydrolase
F;1-46/Domain: signal sequence #status predicted <SIG>
F;47-316/Product: ribosomal RNA N-glycosidase #status predicted <MAT>
F;53-294/Domain: rRNA N-glycosidase homology <RNG>

Query Match 100.0%; Score 1623; DB 2; Length 316;
Best Local Similarity 100.0%; Pred. No. 1.9e-120;
Matches 316; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 MKGNMKVYWIKIAVATWFCCTTIVLGSTARIFSLPTNDEEETSKTLGLDTVSFSTKGATY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MKGNMKVYWIKIAVATWFCCTTIVLGSTARIFSLPTNDEEETSKTLGLDTVSFSTKGATY 60

Qy         61 ITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDNGQLAEIAIDVTSVY 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDNGQLAEIAIDVTSVY 120

Qy        121 VVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEKAYRETTDLGIEPLR 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 VVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEKAYRETTDLGIEPLR 180

Qy        181 IGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNNFQQRIRPANNTISL 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 IGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNNFQQRIRPANNTISL 240

Qy        241 ENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKIALLKFVDKDPKTSL 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
```

```
Db        241 ENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKIALLKFVDKDPKTSL 300

Qy        301 AAELIIQNYESLVGFD 316
              ||||||||||||||||
Db        301 AAELIIQNYESLVGFD 316
```

RESULT 2
RLCSD
ricin D precursor - castor bean
N;Contains: rRNA N-glycosidase (EC 3.2.2.22)
C;Species: Ricinus communis (castor bean)
C;Date: 31-Dec-1993 #sequence_revision 31-Dec-1993 #text_change 09-Jul-2004
C;Accession: A24041; S20513; A24614; A03372; A24010; A03374; S10903
R;Halling, K.C.; Halling, A.C.; Murray, E.E.; Ladin, B.F.; Houston, L.L.; Weaver, R.F.
Nucleic Acids Res. 13, 8019-8033, 1985
A;Title: Genomic cloning and characterization of a ricin gene from Ricinus communis.
A;Reference number: A24041; MUID:86067214; PMID:2999712
A;Accession: A24041
A;Molecule type: DNA
A;Residues: 1-576 <HAL>
A;Cross-references: UNIPROT:P02879; GB:X03179; NID:g21082; PIDN:CAA26939.1; PID:g21083
R;Tregear, J.W.; Roberts, L.M.
Plant Mol. Biol. 18, 515-525, 1992
A;Title: The lectin gene family of Ricinus communis: cloning of a functional ricin gene
A;Reference number: S20513; MUID:92163016; PMID:1371405
A;Accession: S20513
A;Molecule type: DNA
A;Residues: 1-576 <TRE>
A;Cross-references: EMBL:X52908; NID:g21084; PIDN:CAA37095.1; PID:g21085
R;Lamb, F.I.; Roberts, L.M.; Lord, J.M.
Eur. J. Biochem. 148, 265-270, 1985
A;Title: Nucleotide sequence of cloned cDNA coding for preproricin.
A;Reference number: A24614; MUID:85179479; PMID:3838723
A;Accession: A24614
A;Molecule type: mRNA
A;Residues: 12-75,'D',77-550,'R',552-576 <LAM>
A;Cross-references: GB:X02388; NID:g21077; PIDN:CAA26230.1; PID:g21078
R;Yoshitake, S.; Funatsu, G.; Funatsu, M.
Agric. Biol. Chem. 42, 1267-1274, 1978
A;Title: Isolation and sequences of peptic peptides, and the complete sequence of Ile ch
A;Reference number: A03372
A;Accession: A03372
A;Molecule type: protein
A;Residues: 36-97,'Q',99-109,'S',111-269,'D',272-283,'L',285-288,290-302 <YOS>
A;Note: this paper cites the others in the series providing experimental details for the
R;Araki, T.; Funatsu, G.
FEBS Lett. 191, 121-124, 1985
A;Title: Revised amino acid sequence of the B-chain of ricin D due to loss of tryptophan
A;Reference number: A24010
A;Accession: A24010
A;Molecule type: protein
A;Residues: 315-383,'PS',386-576 <ARA>
R;Funatsu, G.; Kimura, M.; Funatsu, M.
Agric. Biol. Chem. 43, 2221-2224, 1979
A;Title: Primary structure of Ala chain of ricin D.
A;Reference number: A03374
A;Accession: A03374
A;Molecule type: protein
A;Residues: 315-335,'N',337-342,'NH',345-362,364-383,'PS',386-399,'T',401,'D',403,'E',40
527,'E',529-564,'W',566,'H',567-570,'LI',573-574,'F' <FUN>
A;Note: this paper, one of a series, summarizes the experimental details for the determi
R;Ready, M.P.; Kim, Y.; Robertus, J.D.
Proteins 10, 270-278, 1991
A;Title: Site-directed mutagenesis of ricin A-chain and implications for the mechanism c
A;Reference number: A48237; MUID:91352006; PMID:1881883
A;Contents: annotation; active site
R;Rutenber, E.; Robertus, J.D.
Proteins 10, 260-269, 1991
A;Title: Structure of ricin B-chain at 2.5 angstrom resolution.
A;Reference number: A48238; MUID:91352005; PMID:1881882
A;Contents: annotation; X-ray crystallography, 2.5 angstroms
R;Katzin, B.J.; Collins, E.J.; Robertus, J.D.
Proteins 10, 251-259, 1991
A;Title: Structure of ricin A-chain at 2.5 angstroms.
A;Reference number: A48239; MUID:91352004; PMID:1881881
A;Contents: annotation; X-ray crystallography, 2.5 angstroms
C;Comment: The functional molecule is a disulfide-linked dimer of A and B chains, which
C;Comment: The A chain inhibits protein synthesis; it inactivates the 60S ribosomal subu
nto the cell of the A chain; B chains are also responsible for cell agglutination (lecti
C;Comment: This protein is cytotoxic and very poisonous to animals.
C;Superfamily: ricin; rRNA N-glycosidase homology
C;Keywords: duplication; glycoprotein; glycosidase; hydrolase; lectin; RNA binding; seed
F;1-35/Domain: signal sequence #status predicted <SIG>
F;36-302/Product: ricin D chain A #status experimental <ACH>
F;46-293/Domain: rRNA N-glycosidase homology <RNG>
F;315-576/Product: ricin D chain B #status experimental <BCH>
F;331-373,374-414,417-455,462-497,501-540,543-576/Region: 40-residue repeats
F;45,409,449/Binding site: carbohydrate (Asn) (covalent) #status experimental
F;115,158,243,244/Binding site: substrate (Tyr, Tyr, Glu, Asn) #status predicted
F;212/Active site: Glu #status experimental
F;215/Active site: Arg #status predicted
F;294-318,334-353,377-394,465-478,504-521/Disulfide bonds: #status experimental
F;336,349,360/Binding site: N-acetylgalactosamine (Asp, Gln, Asn) #status experimental
F;548,569/Binding site: N-acetylgalactosamine (Asp, Asn) #status experimental

  Query Match   23.8%; Score 386; DB 1; Length 576;
  Best Local Similarity   35.0%; Pred. No. 1.5e-22;
  Matches 115; Conservative   54; Mismatches 132; Indels   28; Gaps   14;

```
Qy          3 GNMKVYWIKIAVATWFCCTTIVLGSTARIFSLPTNDEEETSKTLGLDTVSFSTKGATYIT 62
              ||  | |:  ||||| |      |||:  :|    |     |   :  ::|:| |||  :
Db          5 GNTIVIWM-YAVATWLC-----FGSTSG-WSFTLEDNNIFPKQYPI--INFTTAGATVQS 55

Qy         63 YVNFLNELRVKLKPEGN-SHGIPLLRKKCDDP-GKCFVLVALSNDNGQLAEIAIDVTSVY 120
              | ||:  :| :|    :  | ||:|  :   |  : |:|| |||       :|:|||: |
Db         56 YTNFIRAVRGRLTTGADVRHEIPVLPNRVGLPINQRFILVELSNHAELSVTLALDVTNAY 115

Qy        121 VVGYQVRNRSYFFKDAPD-----AAYEGLFKNTIKTR--LHFGGSYPSLEGEKA-YRETT 172
              ||||:  | :|||   ||       |   || : :: |    |||:|  ||       ||
Db        116 VVGYRAGNSAYFFH--PDNQEDAEAITHLFTD-VQNRYTFAFGGNYDRLEQLAGNLRENI 172

Qy        173 DLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRN--NFQQR 230
              :||  ||   |  |   :   :  :| | :: |||:|||||| :|| ::|    : :|
Db        173 ELGNGPLEEAISALYYYSTGGTQLPTLARSFIICIQMISEAARFQYIEGEMRTRIRYNRR 232

Qy        231 IRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKIALLK 290
              |  : |:||| ||:||  |: |   | |:  ::|:| || |: |  |  : | |||:
Db        233 SAPDPSVITLENSWGRLSTAIQESN-QGAFASPIQLQRRNGSKFSVYDVSILIPIIALMV 291

Qy        291 FVDKDPKT---SLAAELIIQNYESLVGFD 316
              :    | :   ||    :: |: : |  |
Db        292 YRCAPPPSSQFSLLIRPVVPNFNADVCMD 320
```

RESULT 3
RLCSAG
agglutinin precursor - castor bean
N;Contains: rRNA N-glycosidase (EC 3.2.2.22)
C;Species: Ricinus communis (castor bean)
C;Date: 31-Dec-1993 #sequence_revision 31-Dec-1993 #text_change 09-Jul-2004
C;Accession: A24261; A24210
R;Roberts, L.M.; Lamb, I.F.; Pappin, D.J.C.; Lord, J.M.
J. Biol. Chem. 260, 15682-15686, 1985
A;Title: The primary sequence of Ricinus communis agglutinin. Comparison with ricin.
A;Reference number: A24261; MUID:86059449; PMID:2999130
A;Accession: A24261
A;Molecule type: mRNA
A;Residues: 1-564 <ROB>
A;Cross-references: UNIPROT:P06750; GB:M12089; NID:g169700; PIDN:AAA33869.1; PID:g169701
R;Araki, T.; Yoshioka, Y.; Funatsu, G.
Biochim. Biophys. Acta 872, 277-285, 1986
A;Title: The complete amino acid sequence of the B-chain of the Ricinus communis aggluti
A;Reference number: A24210
A;Accession: A24210
A;Molecule type: protein

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: July 27, 2005, 17:15:15 ; Search time 174 Seconds
(without alignments)
929.983 Million cell updates/sec

Title: US-10-074-596-1
Perfect score: 1623
Sequence: 1 MKGNMKVYWIKIAVATWFCC.....KTSLAAELIIQNYESLVGFD 316

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1612378 seqs, 512079187 residues

Total number of hits satisfying chosen parameters: 1612378

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : UniProt_03:*
1: uniprot_sprot:*
2: uniprot_trembl:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	1623	100.0	316	1	RIPG_GELMU	P33186 gelonium mu
2	1242.5	76.6	258	2	Q9S9E4	Q9s9e4 gelonium mu
3	415	25.6	299	2	Q8GZN9	Q8gzn9 euphorbia s
4	401.5	24.7	580	2	Q94BW3	Q94bw3 cinnamomum
5	400.5	24.7	581	2	Q94BW5	Q94bw5 cinnamomum
6	392.5	24.2	549	2	Q9FV22	Q9fv22 cinnamomum
7	392.5	24.2	580	2	Q94BW4	Q94bw4 cinnamomum
8	391	24.1	297	2	Q8GZP0	Q8gzp0 euphorbia s
9	386	23.8	576	1	RICI_RICCO	P02879 ricinus com
10	367	22.6	293	2	Q8VYU0	Q8vyu0 jatropha cu
11	366	22.6	564	1	AGGL_RICCO	P06750 ricinus com
12	364	22.4	293	2	Q8S452	Q8s452 jatropha cu
13	361.5	22.3	563	2	Q8GT32	Q8gt32 sambucus ni
14	352.5	21.7	541	2	Q41174	Q41174 ricinus com
15	352	21.7	563	1	NIGB_SAMNI	P33183 sambucus ni
16	352	21.7	563	2	Q945S2	Q945s2 sambucus ni
17	351	21.6	309	2	Q6T5D6	Q6t5d6 jatropha cu
18	348.5	21.5	563	2	O04367	O04367 sambucus ni
19	347	21.4	286	1	RIP2_MOMBA	P29339 momordica b
20	347	21.4	286	1	RIP3_MOMCH	P24817 momordica c
21	346	21.3	264	2	Q684J5	Q684j5 momordica c
22	343	21.1	294	1	RIP1_TRIAN	P56626 trichosanth
23	341.5	21.0	265	1	RIP2_PHYDI	P34967 phytolacca
24	339	20.9	564	2	Q9AVR2	Q9avr2 sambucus eb
25	338	20.8	313	2	Q6PWU4	Q6pwu4 phytolacca
26	337.5	20.8	527	1	ABRB_ABRPR	Q06077 abrus preca
27	334.5	20.6	313	1	RIP1_PHYAM	P10297 phytolacca
28	333.5	20.5	294	1	RIPA_PHYAM	Q03464 phytolacca
29	333	20.5	282	1	RIP2_BRYDI	P98184 bryonia dio
30	330.5	20.4	294	2	Q8H1W1	Q8h1w1 phytolacca
31	330.5	20.4	567	2	Q6H267	Q6h267 viscum albu
32	330	20.3	314	2	P93444	P93444 phytolacca
33	329	20.3	252	2	Q38760	Q38760 abrus preca
34	329	20.3	567	2	Q6H265	Q6h265 viscum albu
35	328.5	20.2	567	2	Q6H266	Q6h266 viscum albu
36	326.5	20.1	569	2	Q6H269	Q6h269 viscum albu
37	325.5	20.1	275	2	Q84LJ1	Q84lj1 gynostemma
38	325	20.0	289	2	Q41216	Q41216 trichosanth
39	324.5	20.0	277	2	Q84JR1	Q84jr1 gynostemma
40	324	20.0	528	1	ABRA_ABRPR	P11140 abrus preca
41	323.5	19.9	277	2	Q8GV09	Q8gv09 gynostemma
42	322.5	19.9	275	2	Q8H1Y4	Q8h1y4 gynostemma
43	322.5	19.9	313	2	Q941G8	Q941g8 phytolacca
44	322	19.8	289	1	RIPT_TRIKI	P09989 trichosanth
45	322	19.8	289	2	Q94KE4	Q94ke4 trichosanth

ALIGNMENTS

RESULT 1
RIPG_GELMU
ID RIPG_GELMU STANDARD; PRT; 316 AA.
AC P33186;
DT 01-OCT-1993 (Rel. 27, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence update)
DT 05-JUL-2004 (Rel. 44, Last annotation update)
DE Ribosome-inactivating protein gelonin precursor (EC 3.2.2.22) (rRNA N-
DE glycosidase).
GN Name=GEL;
OS Gelonium multiflorum (Euphorbiaceae himalaya).
OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids;
OC eurosids I; Malpighiales; Euphorbiaceae; Crotonoideae; Gelonieae;
OC Gelonium.
OX NCBI_TaxID=3979;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=94085781; PubMed=7916721; DOI=10.1016/0378-1119(93)90097-M;
RA Nolan P.A., Garrison D.A., Better M.;
RT "Cloning and expression of a gene encoding gelonin, a ribosome-
RT inactivating protein from Gelonium multiflorum.";
RL Gene 134:223-227(1993).
RN [2]
RP SEQUENCE OF 47-93.
RC TISSUE=Seed;
RX MEDLINE=89326691; PubMed=2753596;
RA Montecucchi P.C., Lazzarini A.M., Barbieri L., Stirpe F., Soria M.,
RA Lappi D.;
RT "N-terminal sequence of some ribosome-inactivating proteins.";
RL Int. J. Pept. Protein Res. 33:263-267(1989).
RN [3]
RP X-RAY CRYSTALLOGRAPHY (1.8 ANGSTROMS).
RX MEDLINE=95333189; PubMed=7608981;
RA Hosur M.V., Nair B., Satyamurthy P., Misquith S., Surolia A.,
RA Kannan K.K.;
RT "X-ray structure of gelonin at 1.8-A resolution.";
RL J. Mol. Biol. 250:368-380(1995).
CC -!- CATALYTIC ACTIVITY: Endohydrolysis of the N-glycosidic bond at one
CC specific adenosine on the 28S rRNA.
CC -!- SUBUNIT: Homodimer.
CC -!- SIMILARITY: Belongs to the ribosome-inactivating protein family.
CC Type 1 RIP subfamily.
CC ---

CC ---
DR EMBL; L12243; AAA16312.1; -.
DR PIR; JT0753; JT0753.

```
DR   HSSP; P09989; 1MRJ.
DR   InterPro; IPR001574; RIP.
DR   Pfam; PF00161; RIP; 1.
DR   PRINTS; PR00396; SHIGARICIN.
DR   PROSITE; PS00275; SHIGA_RICIN; FALSE_NEG.
KW   Direct protein sequencing; Glycoprotein; Hydrolase; Plant defense;
KW   Protein synthesis inhibitor; Signal; Toxin.
FT   SIGNAL        1     26       Potential.
FT   PROPEP       27     46
FT   CHAIN        47    297       Ribosome-inactivating protein gelonin.
FT   PROPEP      298    316       Removed in mature form.
FT   DISULFID     90     96
FT   CARBOHYD    235    235       N-linked (GlcNAc. . .).
FT   ACT_SITE    212    212
FT   CONFLICT     90     90       C -> K (in Ref. 2).
FT   CONFLICT     93     93       P -> D (in Ref. 2).
SQ   SEQUENCE   316 AA;  35418 MW;  1252F3E710901B85 CRC64;

  Query Match             100.0%;  Score 1623;  DB 1;  Length 316;
  Best Local Similarity   100.0%;  Pred. No. 2.9e-118;
  Matches  316;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MKGNMKVYWIKIAVATWFCCTTIVLGSTARIFSLPTNDEEETSKTLGLDTVSFSTKGATY 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MKGNMKVYWIKIAVATWFCCTTIVLGSTARIFSLPTNDEEETSKTLGLDTVSFSTKGATY 60

Qy         61 ITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDNGQLAEIAIDVTSVY 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDNGQLAEIAIDVTSVY 120

Qy        121 VVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEKAYRETTDLGIEPLR 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 VVGYQVRNRSYFFKDAPDAAYEGLFKNTIKTRLHFGGSYPSLEGEKAYRETTDLGIEPLR 180

Qy        181 IGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNNFQQRIRPANNTISL 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 IGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTFIENQIRNNFQQRIRPANNTISL 240

Qy        241 ENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKIALLKFVDKDPKTSL 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 ENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTAVDQVKPKIALLKFVDKDPKTSL 300

Qy        301 AAELIIQNYESLVGFD 316
              ||||||||||||||||
Db        301 AAELIIQNYESLVGFD 316


RESULT 2
Q9S9E4
ID   Q9S9E4      PRELIMINARY;      PRT;   258 AA.
AC   Q9S9E4;
DT   01-MAY-2000 (TrEMBLrel. 13, Created)
DT   01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   rRNA -glycosidase (EC 3.2.2.22) (rRNA N-glycosidase).
OS   Gelonium multiflorum (Euphorbiaceae himalaya).
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids;
OC   eurosids I; Malpighiales; Euphorbiaceae; Crotonoideae; Gelonieae;
OC   Gelonium.
OX   NCBI_TaxID=3979;
RN   [1]
RP   SEQUENCE.
RX   MEDLINE=96006751; PubMed=7553224;
RA   Rosenblum M.G., Kohr W.A., Beattie K.L., Beattie W.G., Marks W.,
RA   Toman P.D., Cheung L.;
RT   "Amino acid sequence analysis, gene construction, cloning, and
RT   expression of gelonin, a toxin derived from Gelonium multiflorum.";
RL   J. Interferon Cytokine Res. 15:547-555(1995).
CC   -!- CATALYTIC ACTIVITY: Endohydrolysis of the N-glycosidic bond at one
CC       specific adenosine on the 28S rRNA.
CC   -!- SIMILARITY: Belongs to the ribosome-inactivating protein family.
DR   HSSP; P09989; 1MRJ.
DR   GO; GO:0016787; F:hydrolase activity; IEA.
DR   GO; GO:0030598; F:rRNA N-glycosylase activity; IEA.
DR   GO; GO:0006952; P:defense response; IEA.
DR   GO; GO:0017148; P:negative regulation of protein biosynthesis; IEA.
DR   GO; GO:0009405; P:pathogenesis; IEA.
DR   InterPro; IPR001574; RIP.
DR   Pfam; PF00161; RIP; 1.
DR   PRINTS; PR00396; SHIGARICIN.
KW   Hydrolase; Plant defense; Protein synthesis inhibitor; Toxin.
SQ   SEQUENCE   258 AA;  28826 MW;  13D68E673F4D6B06 CRC64;

  Query Match             76.6%;  Score 1242.5;  DB 2;  Length 258;
  Best Local Similarity   95.8%;  Pred. No. 1e-88;
  Matches  248;  Conservative    1;  Mismatches    1;  Indels    9;  Gaps    2;

Qy         47 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKKCDDPGKCFVLVALSNDN 106
              |||||||||||||||||||||||||||||||||||||||||||  ||||||||||||||||
Db          1 GLDTVSFSTKGATYITYVNFLNELRVKLKPEGNSHGIPLLRKG-DDPGKCFVLVALSNDN 59

Qy        107 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTI--------KTRLHFGGS 158
              |||||||||||||||||||||||||||||||||||||||||||        |||||||||
Db         60 GQLAEIAIDVTSVYVVGYQVRNRSYFFKDAPDAAYEGLFKNTIKNPLLFGGKTRLHFGGS 119

Qy        159 YPSLEGEKAYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTF 218
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        120 YPSLEGEKAYRETTDLGIEPLRIGIKKLDENAIDNYKPTEIASSLLVVIQMVSEAARFTF 179

Qy        219 IENQIRNNFQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTA 278
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        180 IENQIRNNFQQRIRPANNTISLENKWGKLSFQIRTSGANGMFSEAVELERANGKKYYVTA 239

Qy        279 VDQVKPKIALLKFVDKDPK 297
              |||||||||||||||||:
Db        240 VDQVKPKIALLKFVDKDPE 258


RESULT 3
Q8GZN9
ID   Q8GZN9      PRELIMINARY;      PRT;   299 AA.
AC   Q8GZN9;
DT   01-MAR-2003 (TrEMBLrel. 23, Created)
DT   01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
DT   01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE   Ribosome inactivating protein Euserratin 2 precursor (EC
DE   3.2.2.22).
GN   Name=Eus2;
OS   Euphorbia serrata.
OC   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC   Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids;
OC   eurosids I; Malpighiales; Euphorbiaceae; Euphorbioideae; Euphorbieae;
OC   Euphorbia.
OX   NCBI_TaxID=196589;
RN   [1]
RP   SEQUENCE FROM N.A.
RA   Girbes T., Arias F.J., Benvenuto E.;
RL   Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
CC   -!- CATALYTIC ACTIVITY: Endohydrolysis of the N-glycosidic bond at one
CC       specific adenosine on the 28S rRNA.
CC   -!- SIMILARITY: Belongs to the ribosome-inactivating protein family.
DR   EMBL; AF457875; AAO15531.1; -.
DR   HSSP; Q9AVR2; 1HWN.
DR   GO; GO:0016798; F:hydrolase activity, acting on glycosyl bonds; IEA.
DR   GO; GO:0030598; F:rRNA N-glycosylase activity; IEA.
DR   GO; GO:0005975; P:carbohydrate metabolism; IEA.
DR   GO; GO:0006952; P:defense response; IEA.
DR   GO; GO:0017148; P:negative regulation of protein biosynthesis; IEA.
DR   GO; GO:0009405; P:pathogenesis; IEA.
DR   InterPro; IPR001574; RIP.
DR   Pfam; PF00161; RIP; 1.
DR   PRINTS; PR00396; SHIGARICIN.
DR   PROSITE; PS00275; SHIGA_RICIN; 1.
KW   Glycosidase; Hydrolase; Plant defense; Protein synthesis inhibitor;
KW   Signal; Toxin.
```